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Human Preferences for Animals on YouTube

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Abstract

Social media has emerged as a dominant platform for sharing human–animal interactions, creating a powerful tool for public engagement and wildlife conservation. Consequently, we sought to determine whether analyzing user preferences for animals on social networks could inform the management of effective conservation campaigns. We analyzed 5129 videos from three channels (Brave Wilderness, BBC Earth, and Nat Geo Wild) available on YouTube, which have millions of followers each. The mean number of "likes" was used as a proxy for animal species preferences. Contrary to the general expectation that humans predominantly prefer charismatic animals (e.g., terrestrial mammals), the most preferred animals on these channels were from the classes Amphibia, Arachnida, and Insecta, which significantly outperformed mammals and birds. Viewers most frequently consumed videos of stinging insects or threatening animals, and domestic animals received more likes than wild animals. Furthermore, contrary to expectations, body mass, IUCN conservation status, and daytime activity of mammals and birds did not significantly influence human preferences. Our results suggest that although viewing animal videos may have a negligible direct conservation impact, the analysis of preferences reveals that creators successfully captured human attention toward less popular animal taxa, highlighting potential indirect benefits. Future research should integrate audience enjoyment of frightening content with conservation intentions.

Keywords: animal conservation; charismatic megafauna; social networks; species preferences

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1. Introduction

Humans exhibit unequal preferences for different animal species. Many species are perceived as ugly, frightening, or disgusting, while others are seen as beautiful and cute [1–8]. The ultimate reasons for these preferences include phylogenetic closeness to humans [6,9,10], species scarcity [11–14], domesticity [1,15,16], body size [17–19], perceived danger [3,4,6,20–22], personal experiences [23–25], and usefulness [26]. It is also suggested that an animal's activity pattern influences conservation support, as species active during the daytime—when humans are also active—may receive greater attention and support [27]. A deeper understanding of the interconnections between humans and animals is critical for animal conservation, as aesthetic preferences play a crucial role in garnering support for conservation efforts [28–31].

Social networks have evolved into powerful tools in the modern conservationist's toolkit to facilitate tangible, real-world impacts [32,33]. Conservation organizations leverage human networks to promote awareness and drive behavioral change regarding biodiversity loss [34]. However, the potential of these tools is heightened by a growing societal challenge: the widespread disconnection from nature, particularly among younger generations [35]. This "extinction of experience," fueled by a decline in direct childhood encounters with nature, can foster apathy towards environmental issues. Therefore, social media campaigns may serve as a critical strategy not only to raise awareness but also to help mitigate "nature deficit disorder" [35] by bringing engaging nature content directly to a digitally engaged audience. This strategic use creates a dynamic platform for public education, mobilization, and fundraising, enabling groups to quickly mobilize support, sign petitions, and pressure lawmakers for policy changes [36]. An example of this success is the viral video of a plastic straw being removed from an olive ridley turtle's (*Lepidochelys olivacea*) nostril, which directly contributed to widespread bans on plastic straws. Similarly, the internet fame of the quokka (*Setonix brachyurus*) has generated significant ecotourism interest, ensuring ample funding for the protection of its endemic population [32]. This phenomenon extends to less charismatic species, as the popularity of the proboscis monkey (*Nasalis larvatus*) in online memes sparked spontaneous fundraising campaigns for its conservation [37]. Furthermore, dedicated channels, such as Brave Wilderness, successfully use platforms, such as YouTube, to generate revenue and positive visibility for often-feared animals, such as reptiles and insects [33]. Although not all social network influences are positive, their strategic application is crucial for balancing human interests with animal welfare to achieve sustainable conservation outcomes [34,36].

This study investigated viewer preferences for animal documentaries published by three major publishers with millions of followers, making them potentially highly influential in public opinion. We hypothesized that: (1) documentaries featuring mammals and birds (particularly those with higher body mass) would be preferred over those featuring other taxa, with a further preference for larger-bodied species within these classes; (2) documentaries with domestic animals would receive more public attention than those featuring wild animals; (3) a more threatened IUCN status (as a proxy for species scarcity) would positively influence public preference; and (4) documentaries depicting animals with diurnal activity patterns would be preferred over those featuring nocturnal, crepuscular, or cathemeral species.

2. Materials and Methods

2.1. Data Collection

We identified YouTube channels with the largest following that primarily featured animal content using the Social Blade database (https://socialblade.com/youtube/top/category/animals (accessed on 18 October 2024)). Three channels met our inclusion criteria: Brave Wilderness, BBC Earth, and Nat Geo Wild. Channels were eligible if: (a.) content primarily focused on free-living animals; (b.) they featured longer-form videos (i.e., not "shorts") suitable for data extraction; (c.) they targeted an adult audience (excluding child-focused channels); (d.) they included videos covering multiple systematic groups (not only one); and (e.) they had more than 5,000,000 followers.

We recorded the number of likes (Likes) and views (Views) for each video. For each video, we recorded the YouTube channel, video title, species identification, video duration (in seconds), and taxonomic class of the featured animal(s). For mammals and birds, we added IUCN conservation status (1 = Least concern; 2 = Near threatened; 3 = Vulnerable; 4 = Endangered; 5 = Critically endangered) when applicable. Individual bird and mammal species were characterized by body weight using published databases (birds [38]; mammals: [39]). Data on activity of animals (N—nocturnal; D—diurnal; C—crepuscular; A—active during different parts of the day = cathemeral) were obtained as follows: for mammals, Bennie et al. [40], Anderson and Wiens [41], and Chen and Wiens [42] and for birds, Anderson and Wiens [41], Chen and Wiens [42], birdsoftheworld.org, and

Glutz [43]. Finally, we coded domestication status for each bird and mammal species as wild (W) or domesticated (D).

2.2. Data Analysis

We summarized the YouTube video data using descriptive statistics (mean, median, and interquartile range, IQR). For each taxonomic class, we examined distributional assumptions using histograms and the Shapiro–Wilk test for normality and Levene's test for homogeneity of variance. Group comparisons across classes were conducted using the Kruskal–Wallis test, comparing likes and views among classes under non-parametric assumptions. When overall differences were significant, we performed post hoc pairwise Dunn's tests with Benjamini–Hochberg adjustment for multiple comparisons. The association between likes and views was evaluated using Spearman's rank correlation.

To identify important predictors of likes and views, we constructed generalized linear mixed models (GLMMs) using the most comprehensive class-level datasets available. We focused on Mammalia and Aves, for which we could obtain data on their body weight, IUCN conservation status, domestication status, and activity patterns. We fitted GLMMs with a Poisson distribution and log link to model engagement as either Likes (number of likes) or Views (number of views). The fixed effects included: the YouTube channel—BBC Earth, Nat Geo Wild, Brave Wilderness (Program); duration of the video (in seconds); body weight (Weight); taxonomic class (class: Aves vs. Mammals); domestication status (Wild vs. Domesticated); IUCN conservation status (from 1 to 5); and activity pattern of animals (N—nocturnal, D—diurnal, C—crepuscular, A—cathemeral). Program, Class, Wild vs. Domesticated, and Activity were treated as factors. Random effects included species identity (Species ID) to account for repeated measures within species and an observation-level random effect (obs_effectA) to address overdispersion. The duration of the video and body weight were rescaled to the 1–10 range prior to modeling. We report fixed effects on the log scale and model/adjusted marginal means (emmeans = EMMs) on the response scale, with 95% CIs.

Model selection was based on the Akaike information criterion (AIC; $_{\Delta}$AIC thresholds) and analysis of deviance (ANODEV). The best-fitted GLMM for Likes was Likes ~ Program + Duration_r + Class + Wild_Domest + (1 | Species_ID) + (1 | obs_effectA), and for Views, Views ~ Program + Duration_r + Wild_Domest + (Program + 1 | Species_ID) + (1 | obs_effectA). Fixed effects tests were conducted using likelihood ratio tests (LRTs). All analyses and visualizations were performed in R [44] using the blmeco, car, dplyr, DHARMA, ggplot2, ggpubr, lme4, FSA, MASS, multcomp, nlme, scales, and sjPlot, and ragg packages.

3. Results

3.1. Summary of Quantitative Characteristics for Analyzed YouTube Videos

Overall, 5129 videos were analyzed, representing 39 taxonomic classes. Summary statistics (means and medians) for Likes and Views are provided in Table 1. The most frequently represented classes were Mammalia (N = 3107), Reptilia (N = 598),C, Insecta (N = 225), Chondrichthyes (N = 183), Actinopterygii (N = 147), Amphibia (N = 83), and Arachnida (N = 69). To maintain clarity and statistical power, we focused subsequent analyses on these eight classes (N > 50).

Table 1. Basic quantitative characteristics of YouTube videos analyzed, grouped by animal class.

Systematic Group	N	Likes				Views			
		Mean	Median	Q1	Q3	Mean	Median	Q1	Q3
Actinistia	2	8728	8728	4592	12,864	773,504	773,504	409,045	1,137,964
Actinopterygii	147	19,949	1400	333	16,000	2,076,906	210,526	31,481	1,280,612
Amphibia	83	26,795	11,000	599	36,500	2,321,442	738,978	52,525.5	2,285,784
Anthozoa	4	4912	2350	1437	5825	321,607	211,931	149,710.75	383,827
Arachnida	69	45,544	10,000	708	55,000	3,449,710	638,998	96,066	3,942,098
Asteroidea	2	84,500	84,500	49,250	119,750	7,508,936	7,508,936	4,043,353	10,974,519
Aves	491	10,395	1600	491	4750	908,422	108,415	36,182	409,390
Bivalvia	2	25,750	25,750	15,125	36,375	2,968,063	2,968,064	2,049,567.25	3,886,560
Cephalopoda	43	15,706	1500	271.5	10,300	1,713,605	180,507	20,604.5	898,501
Chelicerata	1	224	224	224	224	11,801	11,801	11,801	11,801
Chilopoda	12	117,345	22,000	3150	120,500	7,541,686	1,444,727	770,314.25	7,355,078
Chondrichthyes	183	9718	284	102.5	1750	804,867	34,922	10,881	266,941
Clitellata	5	132,678	40,000	26,000	252,000	15,365,307	11,580,868	1,377,000	27,353,081
Crinoidea	1	7500	7500	7500	7500	341,113	341,113	341,113	341,113
Ctenophora	2	2100	2100	1900	2300	209,729	209,730	137,227.25	282,232
Cubozoa	2	269	269	152	386	25,992	25,992	17,579	34,405
Dinosauria	48	33,584	13,500	1054.5	35,750	7,253,435	1,396,502	110,182.75	6,027,878
Diplopoda	3	20,142	26,000	13,213	30,000	1,143,531	1,637,524	829,264.5	1,704,795
Dipnoi	1	9800	9800	9800	9800	888,661	888,661	888,661	888,661
Echinoidea	2	77,100	77,100	43,150	111,050	7,404,459	7,404,459	4,106,610.5	10,702,308
Enteropneusta	1	1300	1300	1300	1300	135,230	135,230	135,230	135,230
Gastropoda	19	32,806	3900	990	20,500	3,698,796	349,737	94,669.5	2,040,452
Hexacorallia	1	8400	8400	8400	8400	908,470	908,470	908,470	908,470
Holothuroidea	2	11,800	11,800	9700	13,900	2,085,384	2,085,384	1,783,187	2,387,581
Hydrozoa	5	43,260	19,000	2700	83,000	2,640,667	1,755,846	591,490	4,309,310
Hyperoartia	5	148,837	228,000	37,000	230,000	7,933,940	10,807,467	1,906,761	11,899,363
Insecta	225	65,038	6000	1000	45,000	4,720,904	567,272	95,715	3,477,820
Malacostraca	39	45,070	8800	1000	38,500	3,905,582	1,260,202	150,793	3,832,515
Mammalia	3107	9246	1000	336.5	3700	1,196,188	91,271	27,575	413,798
Medusozoa	5	10,465	598	427	24,000	1,082,667	165,027	80,553	1,209,056
Merostomata	1	649,000	649,000	649,000	649,000	57,128,279	57,128,279	57,128,279	57,128,279
Octocorallia	3	1858	57	37	2778.5	232,868	10,788	5936.5	348,759.5
Platyhelminthes	1	8400	8400	8400	8400	1,616,314	1,616,314	1,616,314	1,616,314
Pleistoannelida	3	321,667	146,000	117,000	438,500	31,486,083	13,044,276	8,919,442.5	44,831,820
Reptilia	598	20,456	1700	389.5	15,000	1,945,504	227,004	41,686.25	1,153,874
Rhabditophora	1	15,000	15,000	15,000	15,000	1,050,866	1,050,866	1,050,866	1,050,866
Scyphozoa	7	1499	1100	171.5	2350	81,542	73,192	36,377.5	104,705
Trilobita	1	15,000	15,000	15,000	15,000	549,208	549,208	549,208	549,208
Udeonychophora	2	89,900	89,900	46,850	132,950	4,696,622	4,696,622	2,732,393.75	6,660,849

3.2. Preferences for Taxonomic Groups Based on Likes and Views

A total of 4904 videos from the eight dominant groups were analyzed. Collectively, these videos received 70,774,737 likes and 7,271,510,826 views across three YouTube channels: BBC Earth, Nat Geo Wild, and Brave Wilderness. There were significant differences in likes across taxonomic classes (Kruskal–Wallis: df = 7; $\chi^2 = 232$; $p = 2.29 \times 10^{-46}$). Post hoc comparisons (Table 2; Figure 1) identified the following grouping from the highest to lowest number of likes: Amphibia, Arachnida, Insecta > Actinopterygii, Aves, Reptilia > Mammalia > Chondrichthyes.

Table 2. Pairwise post hoc Dunn test results for likes among dominant classes (BH-adjusted).

Class	Actininopt.	Amph.	Arachn.	Aves	Chondr.	Insect.	Mammalia	Sig.Letters
Actinoptery								**a**
Amphibia	**							**b**
Arachnida	**	0.9163						**b**
Aves	0.6977	***	***					**a**
Chondrichthyes	***	***	***	***				**c**
Insecta	***	0.8207	0.7661	***	***			**b**
Mammalia	**	***	***	***	***	***		**d**
Reptilia	0.8360	***	**	0.2874	***	***	***	**a**

Legend: significance—<0.001 ***; <0.01 **; groups with different letters differ significantly (Dunn test, BH-adjusted).

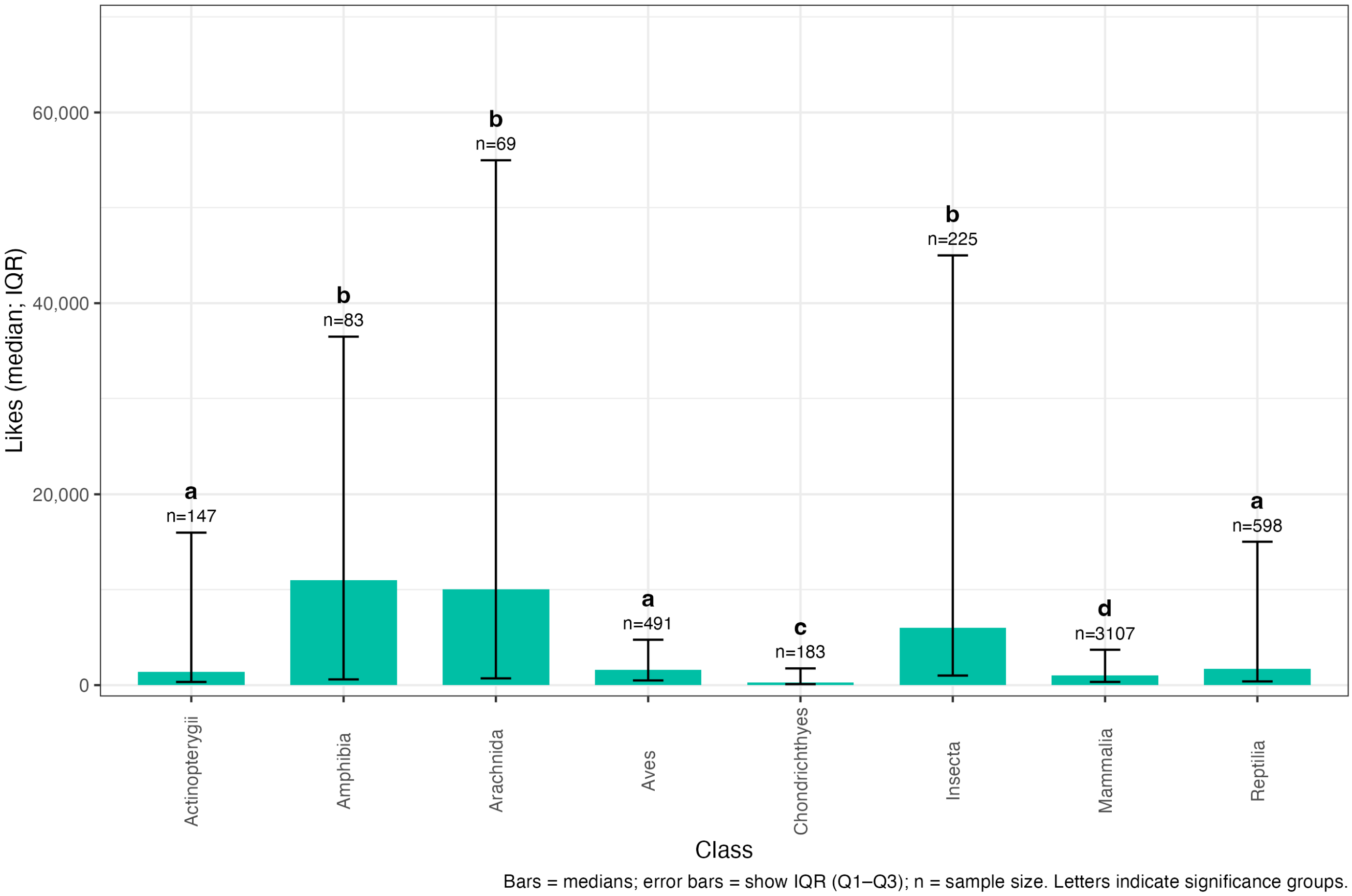

Figure 1. Median likes (IQR) across taxonomic classes; groups with different letters differ significantly (Dunn test, BH-adjusted, $p < 0.05$). Bars show medians; error bars show IQR (Q1–Q3). Sample sizes are numbers of videos.

Similar patterns were observed for the number of views across taxonomic classes. The differences were significant (Kruskall–Wallis test: df = 7, $\chi^2 = 200.37$, $p = 9.61 \times 10^{-40}$). A post hoc Dunn test with Benjamini–Hochberg correction identified significant pairwise differences among classes (Table 3; Figure 2).

Table 3. Pairwise post hoc Dunn test results for views among dominant classes (BH-adjusted).

	Actin.	Amph.	Arachn.	Aves	Chondr.	Insect.	Mammal.	Sig.Letters
Actinopterygii								ab
Amphibia	0.0879							ac
Arachnida	*	0.5037						c
Aves	0.0507	***	***					bd
Chondrichthyes	***	***	***	***				e
Insecta	**	0.3971	0.9966	***	***			c
Mammalia	**	***	***	0.0829	***	***		d
Reptilia	"0.8908"	"0.0659"	**	***	***	***	***	a

Legend: significance—<0.001 ***; <0.01 **; <0.05 *; groups with different letters differ significantly (Dunn test, BH-adjusted).

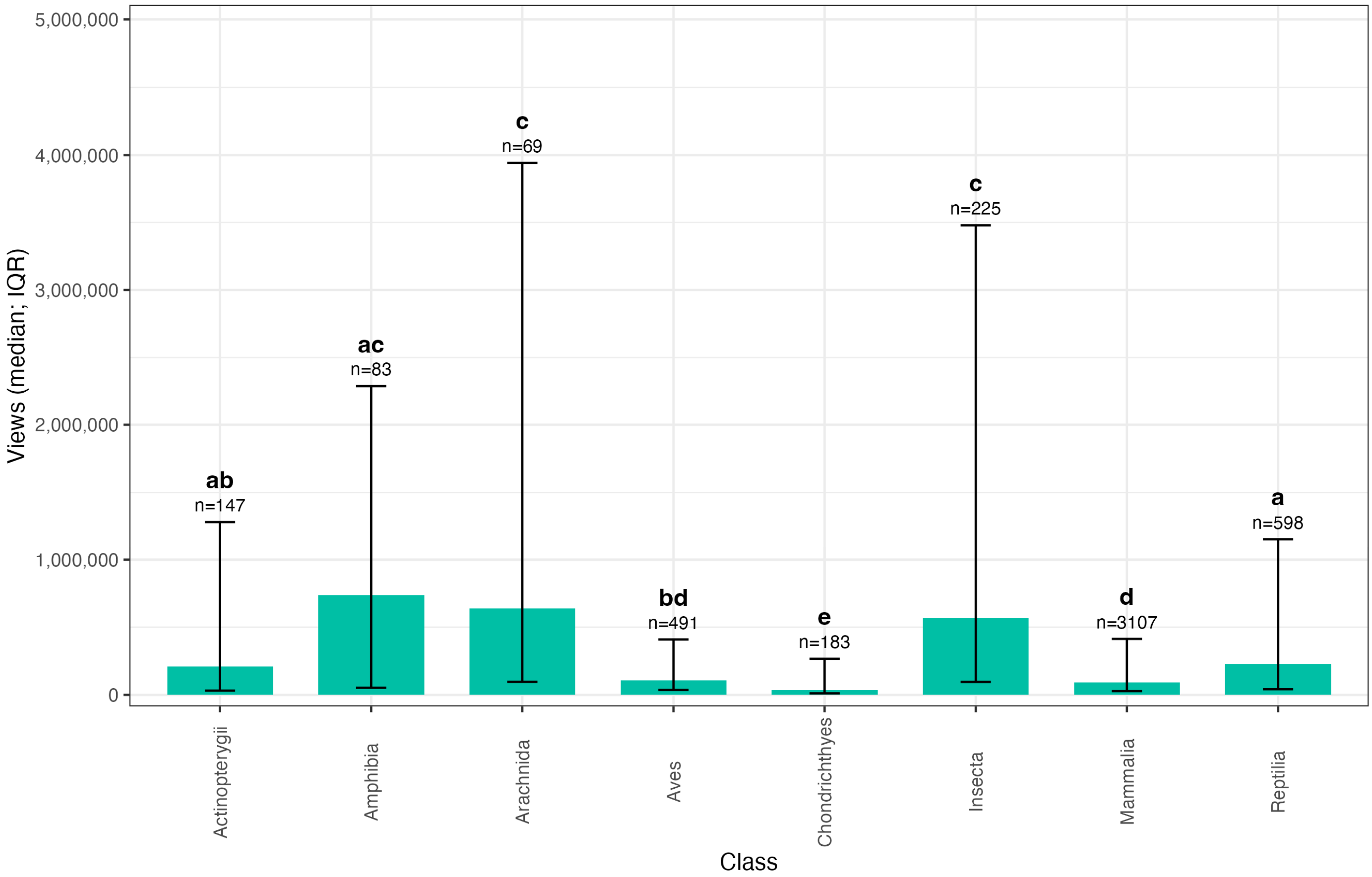

Figure 2. Median views (IQR) across taxonomic classes; groups with different letters differ significantly (Dunn test, BH-adjusted, $p < 0.05$). Bars show medians; error bars show IQR (Q1–Q3).

The most viewed and liked video (see Supplementary Material 1 and 2) featured the red velvet ant (*Dasymutilla occidentalis*; Insecta; N = 1; views = 80,639,055; likes: 1,200,000) that is known for its painful sting. Other highly viewed and liked species within Insecta included: *Polistes carnifex* (N = 4; views = 17,818,868; likes = 340,500); *Paraponera clavata* (N = 8; views = 17,818,868; likes = 274,012); *Sphecius speciosus* (N = 2; views= 7,692,580; likes = 202,000); *Vespa mandarinia* (N = 8; views = 8,977,070; likes = 159,000); *Aedes aegypti* (N = 1; views = 5,707,039; likes = 165,000); *Atta cephalotes* (N = 2; views = 289,509; likes = 163,500); or family-level videos: Vespinae (N = 1; views = 8,977,070; likes = 573,000) and Pompilidae (N = 3; views = 32,274,240; likes = 461,666). The species with the most videos was *Apis mellifera*, which also achieved relatively high views and likes (N = 11; views = 3,937,886; likes = 40,398).

Within Arachnida, the most viewed and liked videos featured *Latrodectus hesperus* (N = 2, views = 41,439,548; likes = 306,000); *Portia* sp. (N = 1, views = 13,042,207, likes = 225,000); *Eremobates* sp. (N = 1; views = 14,984,639; likes = 159,000); *Atrax robustus* (N = 4; views = 8,545,095; likes = 122,187); *Caerostris darwini* (N = 1; views = 8,052,060; likes = 121,000); *Lactrodectus hasselti* (N = 2, views = 7,301,931; likes = 89,000). Amphibia also showed high engagement, with preferred species such as *Teratophyla spinosa* (N = 1; views = 8,958,881; likes = 105,000); *Caecilia volcani* (N = 1; views = 6,353,155; likes = 99,000); *Dendrobates auratus* (N = 1; views = 6,614,661; likes = 92,000); *Leptodactylus pentadactylus* (N = 2; views = 5,090,348; likes = 88,115); *Cryptobranchus alleganiensis* (N = 2; views = 16,581,780; likes = 78,794). The average mean numbers are shown in parentheses.

3.3. The Relationship Between Likes and Views

There was a strong relationship between the number of likes and the number of views (Figure 3). These variables were highly correlated (Spearman $\rho = 0.94$, $p < 0.001$) and exhibited similar trends in all analyses.

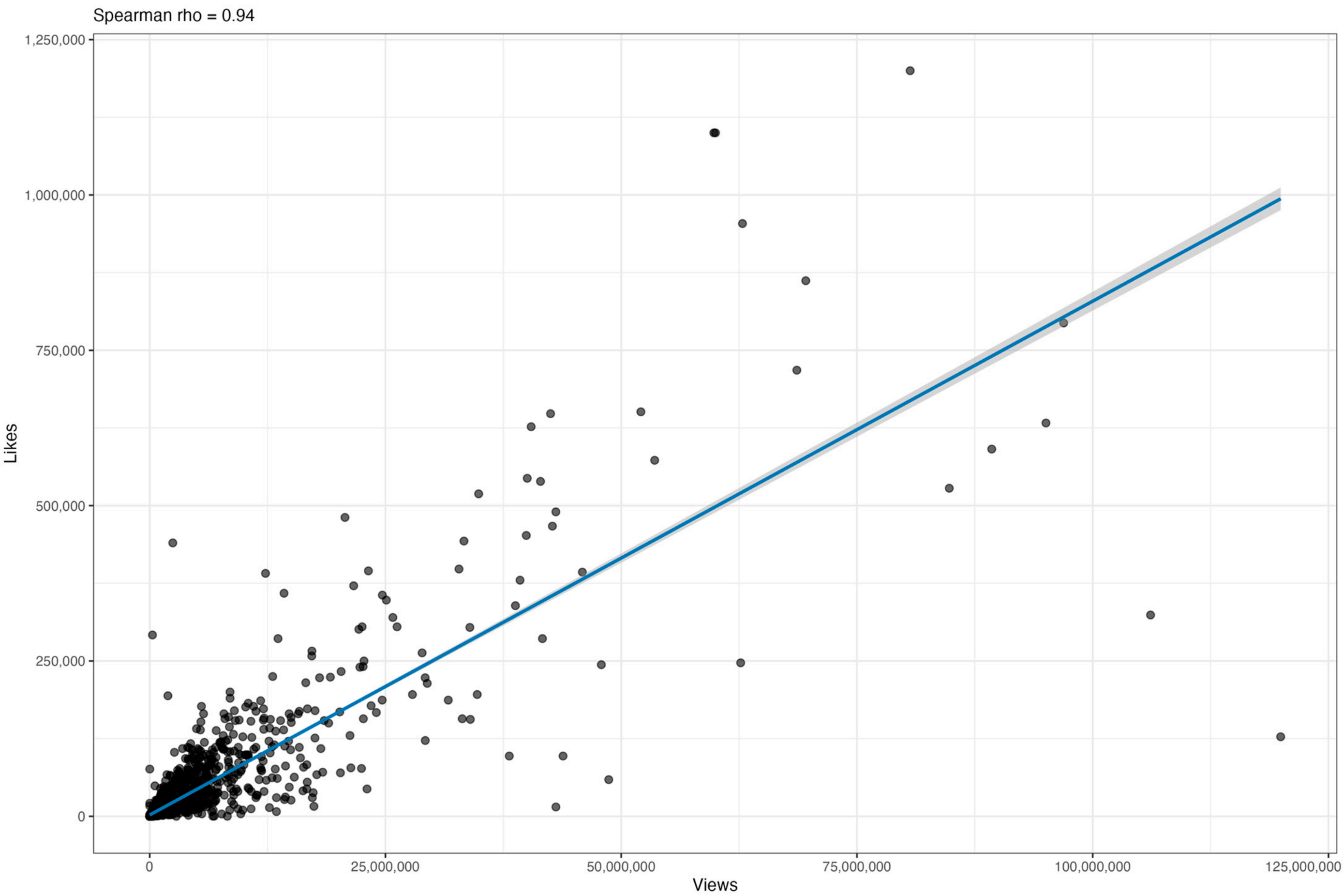

Figure 3. The correlation (Spearman $\rho = 0.94$, $p < 0.001$) between the number of likes and views.

3.4. Important Factors in Preferences of Mammal and Bird Species

To identify predictors of audience preferences, we analyzed the most comprehensive species-level datasets available for mammals and birds (see Section 2). A total of 2409 videos featuring 359 species of animals (130 bird and 229 mammal species) were analyzed. Collectively, these videos received 22,398,141 likes and 2,683,187,132 views across three YouTube channels: BBC Earth, Nat Geo Wild, and Brave Wilderness.

The most significant impacts on the number of obtained likes, according to a best-fitted GLMM (Poisson link; Tables 4 and 5), were observed in four predictors: program (YouTube channel), duration of the video in seconds, systematic class of animals (Aves vs. Mammalia) and domestication status of animals.

Table 4. Individual coefficients from best-fitted GLMM for likes.

	Estimate	Std. Error	z Value	Pr (>|z|)	
(Intercept)	7.79666	0.24302	32.082	$<2 \times 10^{-16}$	***
ProgramBrave Wilderness	2.31999	0.17460	13.287	$<2 \times 10^{-16}$	***
ProgramNat Geo WILD	−1.27268	0.07783	−16.352	$<2 \times 10^{-16}$	***
Duration_r	0.52291	0.06917	7.560	4.03×10^{-14}	***
ClassMammalia	−0.37562	0.12316	−3.050	0.00229	**
Wild_Domest (W)	−0.43001	0.18753	−2.293	0.02185	*

Signif. codes: $p < 0.001$ - ***; $p < 0.01$ - **; $p < 0.05$ - *.

Table 5. Results of the Likelihood Ratio Test (LRT) for the best-fitted GLMM showing the relationships between the number of likes and fixed effect predictors.

Model: Likes ~ Program + Duration_r + Class + Wild_Domest + (1|Species_ID) + (1|obs_effectA).					
	npar	**AIC**	**LRT**	**Pr (Chi)**	
<none>		43,606			
Program	2	44,125	522.17	$<2.2 \times 10^{-16}$	***
Duration	1	43,661	56.51	5.605×10^{-14}	***
Class	1	43,614	9.14	0.002504	**
Wild vs. Domesticated	1	43,610	5.12	0.023712	*

Signif. codes: $p < 0.001$ - ***; $p < 0.01$ - **; $p < 0.05$ - *.

Program (LRT = 522.17; $p < 0.001$) and duration of the video (LRT = 56.51; $p < 0.001$) were the strongest predictors. The systematic class of animals (Mammalia vs. Aves; LRT = 9.14; $p = 0.0025$) and domestication of individual species (LRT = 5.12; $p = 0.0237$) were also important predictors with a significant impact on the number of likes obtained from video viewers.

This model (Likes ~ Program + Duration_r + Class + Wild_Domest + (1|Species_ID) + (1|obs_effectA)) was the most parsimonious and best-fitted according to the AIC. Moreover, other predictors (weight of animals, their IUCN status, and their activity) were not significant in the more complex models and were excluded. Additionally, these predictors had no impact on the number of likes when we are analyzing only wild animals, excluding domesticated species from the dataset.

There was a significant effect of taxonomic class on the number of obtained likes after adjusting for YouTube channel, Duration_r, and Wild/Domestic status. Mammalia received fewer likes than Aves ($\beta = -0.376 \pm 0.123$ SE, $z = -3.05$, $p = 0.002$, Table 4). This corresponds to a rate ratio of 0.69, indicating Mammalia received about 31% fewer likes than Aves. Model-adjusted mean likes were higher for Aves than Mammalia (Aves: EMM = 5614 (95% CI: 4167–7562); Mammalia: EMM = 3856, (95% CI: 3135–4742)). EMMs were averaged over levels of YouTube channel and Wild/Domestic status and evaluated with the mean Duration_r.

Moreover, domestication status (Domesticated vs. Wild) also played a role in species preference, with wild animals ($\beta = -0.430 \pm 0.188$ SE, $z = -2.29$, $p = 0.02$, Table 4) receiving significantly fewer likes (EMM = 3752 95%, CI: 3231–4357) than domesticated taxa

(EMM = 5768, 95% CI: 3928–8471). This means that wild animals received approximately 35% fewer likes than domesticated taxa, corresponding to a rate ratio of 0.65. Furthermore, a strong positive relationship was observed between video duration and the number of likes: longer videos received significantly more likes (β = 0.523 ± 0.069 SE, z = 7.56, $p < 0.001$, Table 4). This trend was consistent across both systematic groups (Mammalia and Aves) and domesticated and wild animals, as shown in Figure 4.

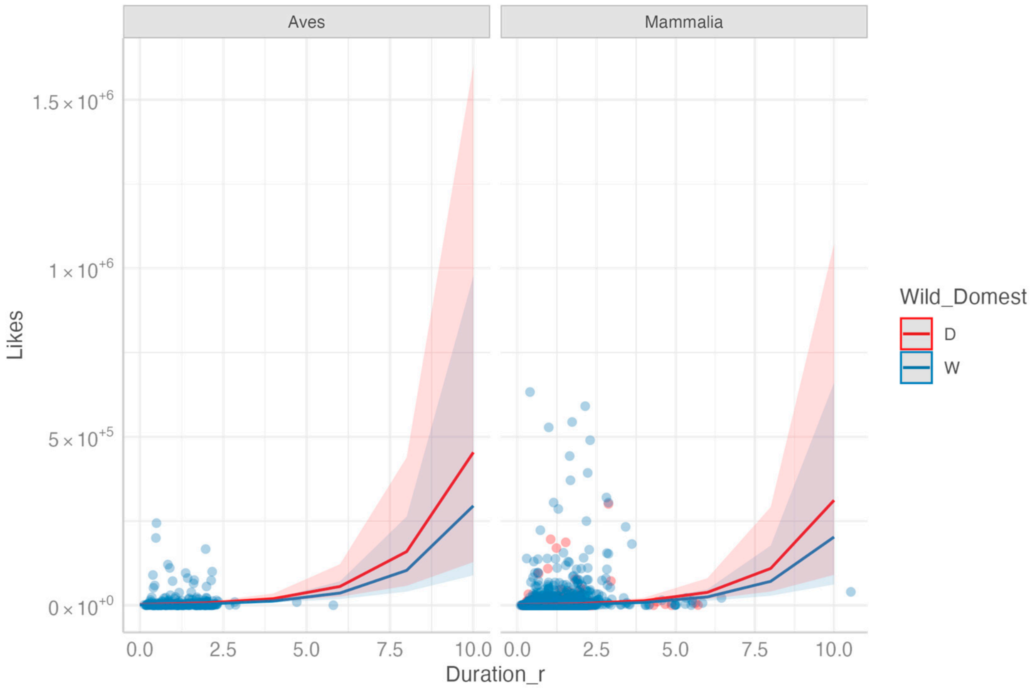

Figure 4. Significant positive relationship (according to GLMM) between the number of obtained likes and video duration, with similar results for both systematic groups (Aves and Mammalia) and for domesticated (D) and wild (W) animals.

Moreover, as expected, the type of YouTube channel had a strong impact on the number of obtained likes (LRT = 522.17, $p < 0.001$, Table 5). During the observation period, the channel Brave Wilderness had the highest number of followers (21,200,000), followed by BBC Earth (12,400,000), while Nat Geo Wild had the fewest followers (5,200,000).

Fixed effects explained 27.58% of the variability in the data, while the total variance explained by random effects was 72.42%. Of this, variance explained by individual observations (obs_effectA; variance = 2.4892; s.d. = 1.5777) accounted for 68.65%, and variance explained by individual species (Species_ID; variance = 0.1365; s.d. = 0.3694) accounted for 3.76%.

We obtained similar results (Tables 6 and 7) in the model with the number of views where YouTube channel (LRT = 177.726; $p < 2.2 \times 10^{-16}$), duration of video (LRT = 32.101; $p < 5.605 \times 10^{-14}$), and domestication status of animals (LRT = 4.595; $p = 0.0227$) were significant predictors. Longer videos (β = 0.422 ± 0.073 SE, z = 5.803, $p < 0.001$, Table 6) and those with domesticated animals compared to wild taxa were more viewed (Wild: β = −0.381 ± 0.017 SE, z = −2.29, $p = 0.022$, Table 6). Moreover, the channel Brave Wilderness had the most views (Program: LRT = 177.726, $p < 0.001$, Table 7) that can be again associated with the significantly highest number of followers. Systematic groups (class) of animals were not significant compared to the model with the number of obtained likes. This model (Views ~ Program + Duration_r + Wild_Domest + (Program + 1 | Species_ID) + (1 | obs_effectA)) was also the most parsimonious and best fitted according to AIC and analyses of deviance. Moreover, other predictors (systematic class, weight of animals, their

IUCN status, and their activity) were not significant in the more complex models and were not included in the model.

Table 6. Individual coefficients from best-fitted GLMM for views.

	Estimate	Std. Error	z Value	Pr (>|z|)	
(Intercept)	12.01712	0.20144	59.656	$<2 \times 10^{-16}$	***
ProgramBrave Wilderness	2.18682	0.18648	11.727	$<2 \times 10^{-16}$	***
ProgramNat Geo WILD	−1.22179	0.10885	−11.224	$<2 \times 10^{-16}$	***
Duration_r	0.42235	0.07279	5.803	6.53×10^{-9}	***
Wild_Domest (W)	−0.38141	0.16674	−2.287	0.0222	*

Signif. codes: $p < 0.001$ - ***; $p < 0.05$ - *.

Table 7. The results of LRT test in best fitted GLMM indicating the relationships between the number of views and fixed effect predictors.

Model: Views ~ Program + Duration_r + Wild_Domest + (Program + 1 | Species_ID) + (1 | obs_effectA)					
	npar	**AIC**	**LRT**	**Pr (Chi)**	
<none>		65,710			
Program	2	65,884	177.726	$<2.2 \times 10^{-16}$	***
Duration	1	65,740	32.101	1.464×10^{-8}	***
Wild vs. Domesticated	1	65,712	4.595	0.03207	*

Signif. codes: $p < 0.001$ - ***; $p < 0.05$ - *.

We consider likes to be a better predictor of personal preferences compared to views, since the video viewer must mark the video as liked while views can sometimes be randomly counted during continuous video playback, for example, even during the temporary absence of a viewer. Fixed effects explained 23.35% of variability in data while the total variance explained by random effects was 76.65%, where variance explained by individual observations (obs_effectA; variance = 2.8544; s.d. = 1.6895) was 66.65% and that by individual species (Species_ID; variance = 0.4285; s.d. = 0.6546) was 10.00%.

Within Aves, the most viewed and liked videos featured *Branta leucopsis* (N = 1, views = 47,892,331; likes = 244,000); *Ramphastos sulfuratus* (N = 1, views = 24,032,407, likes = 167,000); *Balaeniceps rex* (N = 1; views = 10,449,423; likes = 96,000); *Menura sp.* (N = 2; views = 9,480,074; likes = 162,500); *Lophorina sp.* (N = 1; views = 8,520,318; likes = 190,000); and *Sericulus ardens* (N = 1, views = 6,532,336; likes = 92,000). Some of Mammalian species also showed high engagement, with preferred species such as *Erethizon dorsatum* (N = 2; views = 23,067,975; likes = 197,800); *Mephitis mephitis* (N = 1; views = 10,729,072; likes = 153,000); *Semnopithecus* sp. (N = 3; views = 30,132,119; likes = 94,650); *Pan paniscus* (N = 5; 24,044,238; likes = 27,764); and *Tachyglossus aculeatus* (N = 1; views = 9,387,617; likes = 111,000).

4. Discussion

This study revealed that although documentaries about mammals and birds are the most available on YouTube, they received significantly fewer likes—a measure of viewer preference—compared to content featuring taxa such as Amphibia, Arachnida, and Insecta. Furthermore, for mammals and birds, body mass, IUCN status, and diurnal activity were not significant predictors of human preference. Instead, whether an animal was domesticated was a much stronger predictor of viewer engagement.

Our first hypothesis proposed a greater preference for documentaries featuring mammals and birds, with the expectation that larger-bodied species would be favored. In contrast, Amphibia, Arachnida, and Insecta significantly outperformed mammals and birds, which are traditionally considered the most popular taxa among humans [1,9,14,15,17]. Amphibians, such as *T. spinosa*, have attracted public attention, likely because of their transparent underside, which allows internal organs to be seen—a trait that may be perceived as exceptional. *C. volcani* could be considered exceptionally disgusting [45], *Dendrobates auratus* beautifully colored, *Leptodactylus pentadactylus* extremely large, and *Cryptobranchus alleganiensis* large, disgusting, and rapacious predators. Although the high preference for apparently disgusting animals is surprising, disgust captures visual attention for longer periods immediately after exposure compared to neutral or fear-related images, which may reflect an evaluation of potential pathogen threats [46]. Subsequent visual avoidance is more typical of disgust-sensitive people, suggesting that consumers of these videos may be specifically less sensitive to this emotion.

Venomous and threatening spiders, such as *Latrodectus* spp. and *A. robustus,* enhance human attention to fear-producing stimuli [47]. Solifugae, such as *Eremobates* sp., are likely to attract attention because of their extremely large chelicerae. Artificially enlarged chelicerae in spiders have been shown to elicit both disgust and fear [48], supporting the idea that the audience for these videos comprises less disgust-sensitive individuals. *C. darwini* is exceptional for producing extremely large orb webs, and *Portia* sp. attracts interest through its unusual feeding habits, such as consuming other orb-web spiders.

Within insects, the aposematic coloration of large species, such as *D. occidentalis* and *P. carnifex,* likely enhances attention [49], further heightened by their extremely strong sting. Similarly, *S. speciosus* is large and aposematically colored, with human interactions likely eliciting fear despite its lack of dangerous stinging capability, whereas *V. mandarinia* combines large size, warning coloration, and a painful sting. Although stinging insects are generally unpopular [21,22], certain behavioral traits also drive engagement. For instance, A. cephalotes exhibits remarkable leaf-carrying behavior to farm fungi, a practice resembling human agriculture that attracts viewer interest [6]. *A. aegypti* has attracted attention due to its distinct black-and-white markings, its role in spreading serious diseases such as dengue and yellow fever [50], and its invasive spread into non-native habitats. Finally, *A. mellifera* is one of the most frequently cited insects [51], associated with ambivalent feelings owing to both the fear of being stung and appreciation for its pollination services and products [25,52].

B. canadensis has striking black and white plumage with a creamy-white face, black neck, and gray wings, making it visually distinctive. The video showing its chicks leaping from cliffs into water immediately after hatching likely provokes strong emotional responses. *R. sulfuratus*, with its uniquely colorful bill, and *B. canadensis* are both popular in Slovak zoos, where they are among the most financially supported species by visitors [53]. *B. rex* attracts attention through its massive, shoe-shaped bill and prehistoric appearance, as well as its unique “freeze and seize” hunting technique, which involves ambushing prey such as fish, snakes, and even baby crocodiles. *Lophorina* sp. and *S. ardens* are notable for their extraordinary courtship displays and striking coloration. *E. dorsatum* is remarkable for its sharp quills, which serve as an effective defence, while *M. mephitis* is known for its apparent black-and-white coloration and defensive behavior of spraying foul-smelling musk. *T. aculeatus* is an unusual egg-laying mammal covered in both fur and spines, representing visible anti-predator adaptations. Finally, *Semnopithecus* sp. and *P. paniscus* are phylogenetically and behaviorally close to humans [9,10], which enhances their relatability and appeal.

The question of why the body mass, IUCN status, and daytime activity of mammals and birds were not associated with human preference remains unresolved. One explanation for the absence of a body mass effect may lie in the context of exposure. Previous studies demonstrating such preferences often used specific methodological approaches, such as predefined ratings of animal pictures [18], real-life encounters in zoos [54], or donating more to conserve larger species [19]. In contrast, the two-dimensional and often decontextualized nature of YouTube videos may prevent viewers from accurately perceiving the real size of animals, potentially explaining the null results observed in this study. Finally, personal experiences, whether positive or negative, can shape the perception of certain species [23–25]. For example, people who have experienced bee stings report greater fear of bees [25].

Previous studies have consistently shown that conservation status does not play a prominent role in determining which species people find appealing or choose to support [19,53,55], but see [18]. This is likely due to low public awareness of taxonomic and conservation issues, which prevents accurate recognition of species rarity [11–13]. As a result, more explicit and easily recognizable cues are necessary to engage the public's interest and support [14,20].

Nocturnal activity in animals does not coincide with human diurnal rhythms and is speculated to reduce conservation support [27]. However, we found no support for this hypothesis, at least for mammals and birds. Documentaries revealing the intimate lives of nocturnal species may help bridge the gap between these otherwise unfamiliar animals and their diurnal counterparts, mitigating initial disparities in popularity. This suggests that YouTube video consumers are not strongly influenced by the activity patterns of the species depicted.

Companion animals, such as dogs or cats, are traditionally considered among the most popular animals [1,15], a preference driven by their close coexistence with humans and their infantile physical and behavioral features, a phenomenon known as neoteny [56]. Unfortunately, this pronounced focus on domestic species suggests that the primary driver of viewer interest is not necessarily a concern for wildlife biology or conservation but rather a search for entertainment and anthropocentric engagement. It is possible that people watching puppy videos are not always looking to connect with nature more broadly, and those fascinated by a spider's venom or a predator's attack might be drawn more to the "creepy" or "gory" spectacle than a genuine interest in supporting the species.

Our analysis suggests that the popularity of animal videos results from a fascination with threat-based content, which is a preference deeply rooted in our evolutionary past. Watching videos of stinging insects or threatening animals is a form of observational fear learning [57], allowing viewers to acquire crucial survival information—such as identifying predators, venomous species, and dangerous contexts—without direct exposure to risk. While the enjoyment of frightening content is not unusual in humans) [58], and such preferences, alongside a focus on domestic animals, do not appear to directly support conservation efforts, the most significant finding is that video producers successfully captured human attention for traditionally unpopular animal groups, such as amphibians, arachnids, and insects. The main point is to use the attention we get for these animals to support conservation. Instead of trying to scare people, we want to transform their initial interests sparked by a creature's venom, speed, or strength into feelings of awe and respect. Those "scary" traits are amazing adaptations for survival, and their impressive qualities can inspire people to want to protect these often-misunderstood animals. Future research should experimentally examine how videos featuring frightening content compare with those showing rescue narratives with the same species in triggering conservation support.

Finally, detailed content analyses and viewer surveys are needed to better understand the specific elements that make these videos attractive to audiences.

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