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Wild Primates in Documentary Films: Biodiversity, Behavior, and Pedagogical Applications
by

Crystal M. Riley Koenig

A dissertation presented to
The Graduate School
of Washington University in
partial fulfillment of the
requirements for the degree
of Doctor of Philosophy

May 2018
St. Louis, Missouri

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Crystal M. Riley Koenig

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Dedicated to my family: Mom, Dad, Bryan, Milo, River,
Craig, Kevin, Stephanie, Caden, Delaney, and Isabella.

Abstract of the Dissertation

Wild Primates in Documentary Films: Biodiversity, Behavior, and Pedagogical Applications

by

Crystal M. Riley Koenig

Doctor of Philosophy in Anthropology

Washington University in St. Louis, 2018

Professor Crickette Sanz, Chair

The representation of wild primates in the nature documentary genre could have important implications for conservation and education. However, no prior research has looked at the content of this genre or its use in education. To fill this gap, the current research included a content analysis of all available documentaries focused on wild primates ($n = 210$) and a survey of 219 college-level anthropology instructors, with an emphasis on determining how primate biodiversity was portrayed, whether primate behavior was realistically depicted in documentaries, whether mistakes and inaccuracies were common, and how college instructors use primate documentaries as resources in their teaching. Results indicate that only a small subset of primate biodiversity was represented in documentaries, and that large-bodied, diurnal primates, especially the African apes, were overrepresented while smaller-bodied and nocturnal primates were underrepresented. The accuracy of primate behavior depictions varied by species. Compared to wild primates, primates in documentaries spent proportionally greater time traveling and engaging in social behaviors. Inaccuracies were documented for all primate taxa. Finally, the survey of anthropology instructors showed that primate documentaries were widely used in the teaching of anthropology. Based on these findings, I recommend that instructors

should carefully review films before sharing them with students, and that primatologists should advocate for the accurate representation of primates in documentaries.

Chapter 1: An Overview of the Representation of Primates in Nature Documentaries

It probably remains true that how we see the natural world influences how we treat it. As audiences grow larger, wildlife films become more technically and artistically sophisticated and move farther away from depicting nature on its terms and more toward dramatically recreating it in terms set by visual media. As the twenty-first century finds more and more people removed from direct experience of the natural world, what will be the consequences of an increasing diet of images that distort perceptions of nature by portraying it as a place of incessant drama and action, of sound and fury, or as a place where our own moral and social values can be easily and straightforwardly applied? (Bousé, 2000, p. 192)

Nature documentaries, including those focused on wild primates, have increased in popularity in recent years. More of these films are being produced, and they are reaching larger audiences than ever before (Chris, 2002). For example, DisneyNature's *Chimpanzee* (2012) grossed nearly \$29 million in the USA. Even as nature documentaries have increased in popularity, some critics have spoken out about misleading and unethical practices in the making of nature documentaries (Boswall, 1997; Bousé, 2000; Palmer, 2010, 2015). Despite large general audiences and widespread use for educational purposes (Riley Koenig, Koenig, & Sanz, 2018), little research has focused on the content of these films or how they portray wildlife (Bousé, 1998), and there has never been a systematic examination of the portrayal of non-human primates in documentaries. These underexplored issues are examined in this dissertation, which evaluates

how non-human primate¹ biodiversity and behavior are portrayed in the wildlife documentary genre and how these films are used in the teaching of college-level anthropology.

1.1 Why primates?

There are wildlife documentaries focused on a wide array of animal species, from insects (e.g. *Vanishing of the Bees*, 2009) to whales (e.g. *Kingdom of the Blue Whale*, 2009). Primate documentaries have special importance because of the significance of non-human primates for understanding human evolutionary history. Understanding the behavior, ecology, and biology of extant primates can provide insights into the behavior, ecology, and biology of our shared ancestors and ourselves. As such, anthropologists often study non-human primates as models of human evolution (Kinzey, 1987; Sussman & Hart, 2015). While the similarity between humans and primates can make the study of primates useful for understanding humans, this similarity can also encourage humans to project our own attitudes, emotions, and intentions onto primates. This tendency is sometimes apparent in primate documentaries, where it manifests in the anthropomorphic and sometimes misleading representations of primates. The inaccurate and misleading portrayal of primates in documentaries is problematic because wildlife documentaries are trusted resources (Chris, 2006) that are often used as educational tools (Riley Koenig, Koenig, & Sanz, 2018).

It is especially interesting to examine how primates are portrayed in documentaries because, although primates are widespread geographically, the majority of primate documentaries are produced for Western audiences that do not overlap with native primate populations (Wright, 2010). For people who do not live within the natural range of wild primates, and especially for people without convenient access to zoos or museums,

¹ Hereafter, for simplicity, I refer to non-human primates as primates and distinguish humans separately, although humans are technically primates.

documentaries represent one of the only opportunities to experience primates (Durham, 1993). As such, primate documentaries have the potential to reach broad audiences who have relatively little direct experience of these animals. If these documentaries are impacting audiences' beliefs, attitudes, and actions, as many scholars believe they are (e.g. Palmer, 2010, 2015), then they have the power to affect wild primate species, many of which are endangered (Estrada et al., 2017; Gross, 2017). However, the representation of primates in documentaries is currently poorly understood, and has been the subject of only a small amount of research (e.g. Morrow, Jameson, & Trinidad, 2017; Watts, 2006; Wright, 2010).

1.2 This research

In order to better understand the representation of non-human primates in nature documentaries, I set out to understand how primates have been portrayed in this genre over the entire course of its existence. In this chapter, I describe the various types of primate documentaries, and then explain the evolution of primate documentaries over time. I address why these portrayals matter by summarizing the impacts that documentary films have on audiences, and addressing the various ways in which wildlife films diverge from reality. Finally, I discuss the ethical considerations involved in the portrayal of primates in documentary films, and suggest that primatologists in particular have an ethical obligation to try to ensure that primates are fairly and accurately portrayed.

This research is novel for several reasons. First, while some research has examined wildlife documentaries broadly, there has never been a focused examination of primates. Second, the empirical approach that I developed (along with my collaborators Crickette Sanz and Bryan Koenig) was inspired by methods I used studying primates in the field (e.g. Riley, Jayasri, & Gumert, 2015; Riley et al., 2016). The method yields highly detailed information, allowing for a

precise picture of how primate behavior and biodiversity are portrayed in documentaries. Finally, most previous research and commentary on wildlife documentaries has originated from within the film industry (e.g. Attenborough, 1961; Boswall, 1962, 1986, 1997; Palmer, 2010, 2011, 2015) or from the field of mass communication (e.g. Bousé, 1998; King, 1996; Richards, 2013, 2014). My perspective is unique because I have been trained as a biological anthropologist, but I sought guidance from a number of disciplines (including primatology, visual anthropology, conservation psychology, conservation biology, film and media studies, pedagogy, and communication) while developing my research questions and methods.

The first step toward understanding primate documentaries and the representation of wild primates in such films was to compile a comprehensive list of primate documentaries. I generated a list of 290 primate documentaries² by searching library catalogues, the Internet, and primate film reviews in scholarly journals, and compiling suggestions from respondents to a survey about primate documentary usage in college anthropology courses (Riley Koenig, Koenig, & Sanz, 2018). I was able to procure access to and screen 210 primate documentaries. As I screened each film, I identified each primate species that appeared on screen and the duration of its time on screen and the behavior of the primates in the film. The data generated from coding the 210 primate documentaries was used to address research questions concerning representation (questions one through three below) and portrayal (question four). An additional dataset was generated by querying college anthropology instructors about their use of primate documentaries in their classes. That dataset was used to address research questions concerning primate documentary usage in college-level anthropology instruction (questions five and six):

² The wildlife documentary genre includes television series, television specials, and feature films. The terms “documentaries” and “films” are used inclusively to refer to all of these.

- 1) Are primate taxa equally or proportionally (based on the number of species per taxon) represented in documentaries?
- 2) Are primates of different conservation statuses (e.g. Critically Endangered, Least Concern) equally or proportionally represented in documentaries?
- 3) Are nocturnal and non-nocturnal primates equally or proportionally represented in documentaries?
- 4) Do depictions of wild primate behavior in documentaries differ from researchers' reports of wild primate behavior?
- 5) Are documentaries about free-ranging primates widely used in the teaching of biological anthropology?
- 6) Which factors affect instructors' decisions about which primate documentaries to show to their classes?

To contextualize these questions, this introduction provides an overview of primate documentaries.

1.3 Types of primate documentaries

Non-fiction films that focus on wildlife are typically lumped together under the label “wildlife documentaries.” Over the course of wildlife documentary history, styles have shifted frequently and innovations in filmmaking have given rise to new subgenres of wildlife film. Currently, there are several subgenres of wildlife documentaries that differ substantially from one another (see Table 1.1 for a summary). Films and television shows about primates have often been at the forefront of innovations in wildlife filmmaking. This dissertation focuses on wildlife

documentaries that feature free-ranging primates, so the description here is limited primarily to those documentaries.

TABLE 1.1 Defining characteristics of the subgenres of wildlife documentary films.

Subgenre	Characteristics
<i>Blue chip</i>	Visually stunning, uncontroversial
<i>Green chip</i>	A subset of blue chip films; have a conservation message
<i>Presenter-led</i>	Have an on-screen personality, action-packed
<i>Docudrama</i>	Anthropomorphized, highly developed plots
<i>Docusoap</i>	A subset of docudramas; plotlines develop over multiple episodes of a TV series
<i>Conservation</i>	Address a specific issue; intend to raise awareness and promote conservation behavior
<i>Educational</i>	Adhere to facts; avoid value judgments

Many primate documentary films are categorized as “blue chip” wildlife films. Blue chip wildlife films are typically high-budget films (Gamel, 2012) that are characterized by the following: 1) a focus on megafauna, 2) magnificent visuals without human obstruction (e.g. vehicles, utility poles), 3) a dramatic storyline, 4) the absence of scientific perspective, politics, historical reference points, and people (although Bousé points out that native, non-white people are sometimes be included in such films) (Bousé, 2000). Examples of blue chip films that feature primates are the *Social Climbers* episode of the BBC’s *The Life of Mammals* series (2003) and the *Primates* episode of BBC’s *Life* series (2009). Blue chip films have been criticized as escapist fantasies that present a utopic view of nature while ignoring the pressing issues endangering the wildlife they portray (Booth, 2017; Palmer, 2015). Recently some traditional blue chip films have been incorporating environmental messages into their programming. These blue chip films with a conservation perspective have been referred to as “green chip films” (Richards, 2013).

Most non-blue chip films are presenter-led films. Presenter-led films have an on-screen personality, a fast pace, a focus on drama and action, and in general a budget lower than blue

chip films (Gamel, 2012). While presenter-led programs may have education as a goal, entertainment is typically the primary focus. This is most obviously demonstrated by the one of the most well-known wildlife presenters, Steve Irwin (also known as the “Crocodile Hunter”), who was known for his flamboyant style. While Irwin helped to popularize the presenter-led genre, he was also criticized by animal rights proponents for his unnecessary and sometimes rough handling of wild animals (e.g. “Irwin’s antics,” 2006; “Irwin interfered,” 2006). Irwin’s conduct was mimicked by other presenters, and presenter-led films continue to be criticized regarding the conduct of the presenters, who often behave undesirably toward animals (Palmer, 2015). For instance, in an episode of *Wild Things with Dominic Monaghan* (2014), Monaghan shines a light directly at a nocturnal slow loris and then plucks it out of its tree (Figure 1.1), an event that was surely distressing to the animal. Like blue chip documentaries, presenter-led films have also been criticized for ignoring relevant conservation issues (Palmer, 2015).



FIGURE 1.1 Screenshot from season two, episode ten of the presenter-led series *Wild Things with Dominic Monaghan* (2014).

Whereas presenter-led films usually rely on drama and action, another subgenre of wildlife documentaries emphasize drama and action to an even greater degree. Docudramas use anthropomorphized narrative plotlines, suspense, and sustained drama to draw in audiences and keep them engaged. Docudramas may have an on-screen presenter (Richards, 2014), but the

primate docudramas examined for this dissertation typically had an off-screen narrator rather than an on-screen presenter. Often, the narration includes ascribing intentions and mental states to the animals on screen (e.g. Figure 1.2). A subset of docudramas are “docusoaps,” which are multi-episode television series (Richards, 2014). Palmer (2010, 2011) classifies a subset of these films as “nature porn” because of their emphasis on violence and gore. As an example he identifies the docusoap *Dark Days in Monkey City* (2009), which focuses on toque macaques (*Macaca sinica*) in Sri Lanka. Nature porn has been accused of discouraging conservation by portraying animals as dangerous and inspiring fear and disgust in audiences (Palmer, 2011).



FIGURE 1.2 Screenshot from episode five of the docusoap series *Monkey Thieves*, including the original subtitled narration.

Blue chip films, presenter-led films, and docudramas usually present a simplified version of reality. Blue chip films do so by excluding aspects of animal life such as conservation threats, human-wildlife overlap, and historical perspective. Presenter-led films and docudramas not only tend to omit these details, but also they tend to rely on narrative storylines with a clear order of significant events. These narratives are typically anthropomorphized and often include

stereotypical Western ideals, such as monogamy, heteronormativity, and a focus on family (King, 1996; Mills, 2013; Singh, 2005; Wexler, 2008). Bousé (2000) said that these value-laden stories are “the voice of a culture talking to itself” (pg. 151). For the sake of a simple, uncontroversial story, these narratives may leave out facts that are inconsistent with values such as monogamy (e.g. even pair-bonded primates typically engage in extra-pair copulations; Palombit, 1994; Reichard, 1995).

Two other types of films, conservation films and educational films, tend to focus on facts over anthropomorphized storylines. The subgenres of wildlife film discussed above generally shy away from controversy and explicit discussion of environmental issues in part due to concerns about alienating and demoralizing audiences (Mills, 1997), but conservation films zero in on these issues with the goal of changing the beliefs and attitudes of viewers (Bousé, 2000). While other subgenres of film omit historical reference points in an effort to appeal to broad audiences, conservation films are grounded in a specific time and are tailored to a specific audience (Wright, 2010). In the primate-specific subset of films examined in this dissertation, true conservation films were rare despite the highly-endangered status of many primates (Estrada et al., 2017; Gross, 2017). *Green* (2012), which focuses on the devastating effects rapid deforestation has on orangutans, was the only true conservation film identified in our sample of films. Some other films did highlight conservation extensively (e.g. *The Funkiest Monkeys*, 2014) but did not qualify as conservation films. Because conservation films typically need to be tailored to their specific audience in order to be effective (Wright, 2010), our focus on English-language films may have excluded primate conservation films in other languages. For example, The International Communication and Education Foundation (INCEF) produces films in local languages to educate people about the great apes that live near them (INCEF, 2016).

The dataset compiled for this dissertation included a substantial proportion of another type of film not typically discussed in the literature about wildlife documentaries: educational (or scientific) films. Educational films are produced explicitly for education purposes. In contrast to entertainment-oriented films, which often embellish and use emotional, value-laden language to enhance drama, science-focused films strive to remain neutral by avoiding value judgments and presenting only facts (Bousé, 2000). These films are often produced by educators and scientists rather than by large production companies. Educational films were especially popular during the early days of primate field studies in the 1950s through the 1970s, as they provided a way for scientists to share their findings as well as their experiences in the field. Although many documentary films could potentially claim education as a goal, the films in this subgenre differ in their explicit focus on education (rather than a primary focus on entertainment with education as a secondary goal). They also differ in that educators and scientists took the lead in the writing and production of these films, rather than serving as scientific consultants as is often the case for films produced by large production companies. Examples of educational films include Jane Goodall's *Studies of the Chimpanzee* video series (1976) and a series of primate education videos created by primatologist Anne Zeller (e.g. *Primate-Human Interaction*, 1997).

In reality, most films do not fit neatly into a category of “educational,” “blue chip,” “presenter-led,” “conservation,” or “docudrama.” Many films blend styles and elements depending on the target audience and the goal of the film. Films intended to entertain families (e.g. *Chimpanzee*, 2012; *Monkey Kingdom*, 2015) understandably differ from films intended to educate audiences about primates (e.g. *The Nut-cracking Chimpanzees of Tai Forest*, 1991; *Primate-Human Interaction*, 1997), and both of these differ from films intended to inspire audiences to take conservation action on behalf of primates (e.g. *Green*, 2012). The successful

combination of education and entertainment is relatively common (e.g. *Clever Monkeys*, 2008; *Kingdom of the Apes*, 2014), but few films blend education, conservation, and entertainment successfully (although some successful examples are *Island of Lemurs: Madagascar*, 2014, and *The Funkiest Monkeys*, 2014). The prioritization of these different goals (i.e. education, entertainment, inspiring conservation) has shifted over the history of primate documentary film.

1.4 History of primates in film

The earliest films that could conceivably be categorized as wild primate documentaries were sensationalized safari films by Martin and Osa Johnson. Before the Johnsons' films, there were a handful of non-fiction videos featuring captive primates (e.g., *Egyptian Fakir with Dancing Monkey*, 1903; *The Intelligence of Apes*, 1914), but the safari films by the Johnsons were some of the earliest footage of wild primates. The Johnsons produced several such films, including *Congorilla* (1932), *Baboona* (1935), and *Borneo* (1937). Western audiences enthusiastically turned out to see these films, which were among the earliest talking films released in theaters. It is difficult to watch these films from a modern perspective. They are rife with racism and dehumanization of local people. Animals are treated cruelly: they are captured, killed, and demonized as dangerous monsters (e.g. Figure 1.3). For instance, *Borneo* features the multi-day, inhumane capture of a Bornean orangutan (*Pongo pygmaeus*). Furthermore, many of the scenes in the Johnsons' films appear staged. In *Baboona*, an interaction between a hyena and a baboon group appears to have taken place in an enclosed area, and thus was likely staged. Some storylines from these films are so far-fetched that they seem to have been created solely for the purposes of entertaining the audience. For instance, in *Congorilla*, the Johnsons claim that a gorilla group was spooked and therefore abandoned two infant gorillas. Although gorilla mothers do abandon their infants from time to time (Watts, 1989), two gorilla mothers simultaneously

abandoning their infants seems unlikely. These films are typically classified as documentaries (e.g., by the Internet Movie Database), but it seems inappropriate to refer to them as such. These films were included in our dataset because of their focus on primates, their historical significance, and their classification as documentaries. They do not fit neatly into any of the subgenres discussed above (blue chip film, presenter-led film, etc.), but they most closely map on to the presenter-led films that arose later on. They would be more accurately categorized as travelogues, or as dramatic fiction.

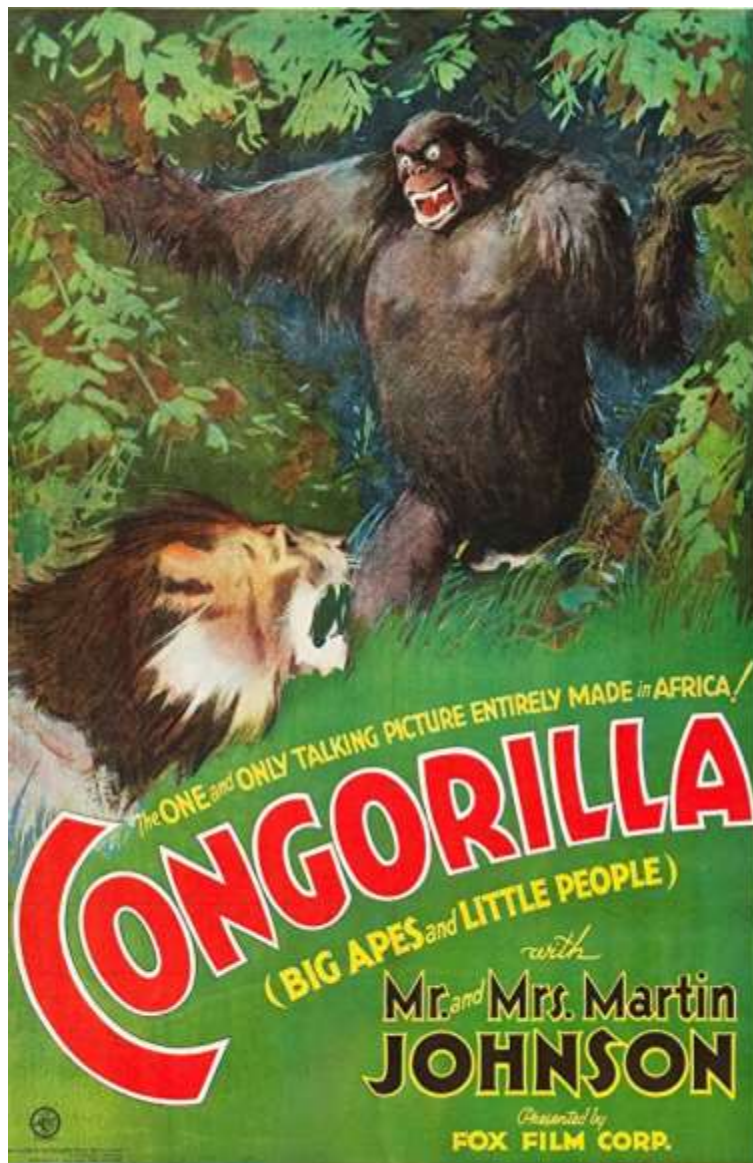


FIGURE 1.3 An original film poster for *Congorilla* (1932).

Following the Johnsons' early safari films in the 1930s, there was a period of approximately two decades when very few primate films were produced. The few primate films produced during the 1940s and 1950s were almost exclusively made by primatologists summarizing their own research or study species. Such educational films (e.g. *Howler Monkeys of Barro Colorado Island*, 1960; Jane Goodall's *Studies of the Chimpanzee* video series, 1976) were scientifically-oriented rather than entertainment and action-driven like the Johnsons' films. The production of these primatologist-led, research-oriented films was common until it tapered off in the early 1980s (*Patas Monkey: Ecology and Behavior*, 1980). Primatologists continue to make long, narrated, research-oriented films (e.g. *Chimpanzee Grooming as Social Custom*, 2000), but the practice is less common now. Today it is common for primatologists to provide brief film footage, intended to illustrate a certain behavior or event, perhaps as an accompaniment to a publication (e.g. Buhl et al., 2012). These film clips are not classified as primate documentaries.

Starting in the late 1940s, production companies like Disney began to produce wildlife documentaries (e.g. the *True-Life Adventures* series). Early wildlife documentaries focused on North American wildlife had returned strong profits, and production companies began to branch out to other geographic regions. During the 1960s and 1970s while primatologists were producing their own science-oriented films, nature and wildlife production companies like National Geographic and Discovery recognized that mixing science and entertainment could attract large audiences (Mitman, 1999). They began to produce primate-centered films designed to appeal to broader audiences. Unlike the films made by scientists, these more entertainment-oriented films tended to revolve around a storyline or theme. The films often focused on a

particular individual (e.g. *Moju the Snow Monkey*, 1989) or on a remarkable population (e.g. *Monkey Island*, 1991). Eventually these blue chip films gave way to presenter-led films.

Unlike blue chip films, which used masterful cinematography to present a version of nature that was pristine and typically free from people, presenter-led films placed people at the center of the action (Richards, 2014). In some cases, presenters like Steve Irwin and Jeff Corwin became famous for their roles on these presenter-led programs. In other cases (and more commonly for films focused on primates), celebrity presenters were brought in (e.g. *In the Wild: Orangutans with Julia Roberts*, 1998 shown in Figure 1.4; *Lemurs with John Cleese*, 1999; *Saving a Species: Gorillas on the Brink* featuring Natalie Portman, 2007), to strengthen a documentary's appeal to broader audiences. Even with the cost of paying a celebrity presenter, presenter-led films typically have lower budgets than blue chip films, in part because of the high costs of producing the magnificent footage typically seen in blue chip films (Richards, 2014).

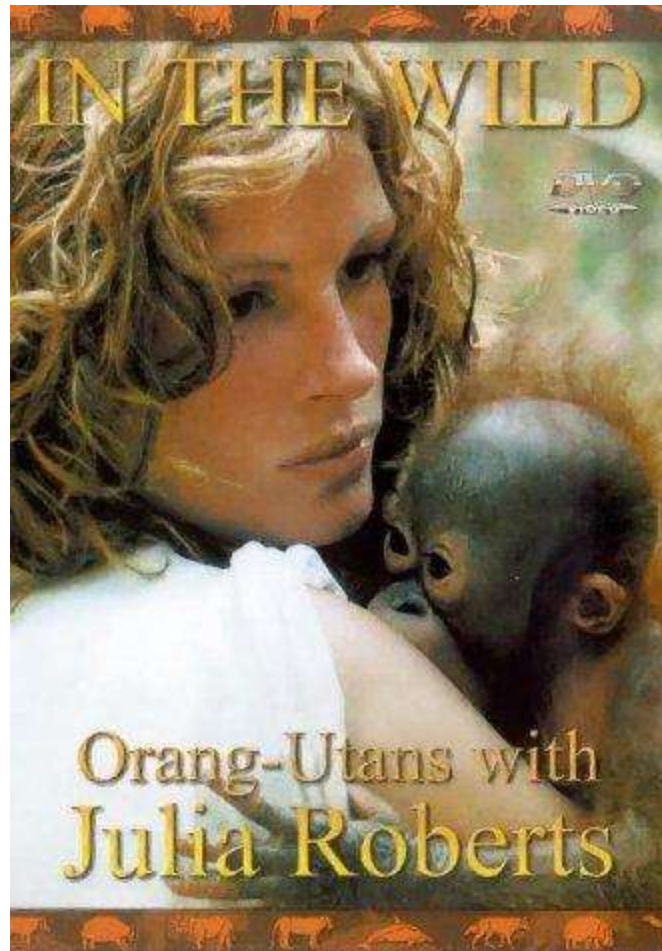


FIGURE 1.4 Image from the DVD cover for *In the Wild: Orang-Utans with Julia Roberts* (1998).

In recent years major production companies like Disneynature have turned their attention to creating big-budget major motion pictures with dramatic, primate-centered storylines narrated by A-list celebrities. Films like *Chimpanzee* (2012) and *Monkey Kingdom* (2015) (Figure 1.5) are often categorized and marketed as documentaries, but they diverge from the traditional documentary format with which people are most familiar. Patricia Aufderheide (2007) defined a documentary film as, “a movie that isn’t fun, a serious movie, something that tries to teach you something.” (pg. 1). Rather than focusing on serious education, films like *Chimpanzee* and *Monkey Kingdom* rely on fun, action-packed storylines delivered by celebrity narrators (Tim Allen and Tina Fey, respectively) and are accompanied by catchy soundtracks. These films were

obviously created with the intention of entertaining broad audiences, including families. Unlike most wildlife films, these recent award-winning films (*Monkey Kingdom* was awarded the Festival Prize at the Jackson Hole Wildlife film Festival; *Chimpanzee* was nominated for two minor awards), were shown in theaters and had impressive profits.³

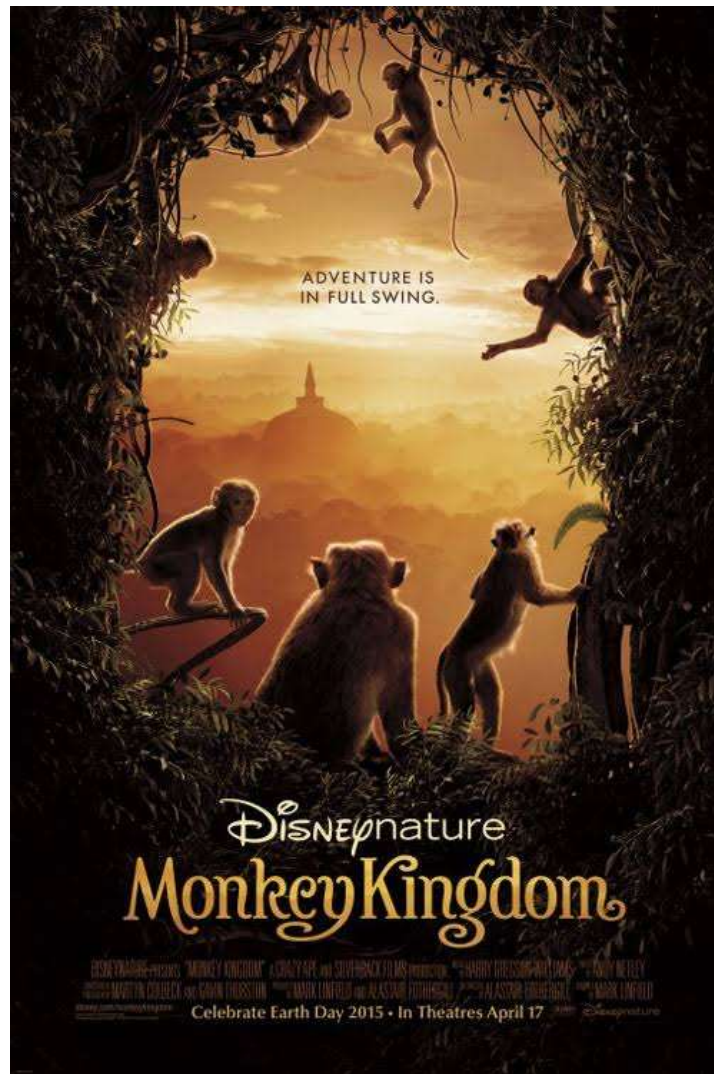


FIGURE 1.5 Original film poster for *Monkey Kingdom* (2015).

Alongside the impressive, big-budget films, another recent trend in primate documentary has been the multi-episode television series. Examples of these include *Monkey Thieves* (2008-

³ According to the Internet Movie Database, *Chimpanzee* grossed \$28,965,459 and *Monkey Kingdom* grossed \$16,427,836. Disney Nature films focused on other taxa (e.g. *African Cats*, 2011 and *Bears*, 2014) have also had strong profits, but none have matched *Chimpanzee*'s success.

2011) and *Dark Days in Monkey City* (2009), which are more accurately categorized as “docusoaps” due to their reliance on suspense and narrative plotlines with compelling individual characters. Docusoaps have been criticized for being sensational and providing a distorted picture of wild animals (Palmer, 2010). However, Richards (2014) argued that docusoaps, which tend to focus on the same individual animals over time, provide an opportunity for audiences to connect with animals as unique individuals, and to acquire a better understanding of animals’ day-to-day lives. In practice, docusoaps range from dramatic but relatively straightforward depictions of animal lives (e.g. *Lemur Street*, 2007) to sensational, over-the-top portrayals (e.g. *Dark Days in Monkey City*, 2009).

In summary, primate documentary film has undergone substantial changes since its origins. Primate documentaries started out sensational, intended to amaze Western audiences with harrowing tales of shocking, human-like, never-before-seen creatures. Following these over-the-top early films, there was a period when most of the primate films produced were made by primatologists and thus were strongly science-oriented. Those scholarly films eventually gave way to blue chip and presenter-led films with broader appeal, as production companies like National Geographic and Discovery began to create films that were science-focused but had a substantial entertainment element. Although these science-focused entertainment films continue to be produced, the current trend is toward more entertainment-focused films that focus on “marketable” facets of primate behavior (e.g. chimpanzee aggression) (Palmer, 2011; Watts, 2006). Such entertainment-oriented films typically have a limited discussion of science, or perhaps were inspired by science but provide an incomplete or inaccurate depiction. As Morrow and colleagues (2017) pointed out, “Contemporary documentaries still imply scientific

objectivity, but focus more on creating narrative stories and emphasizing dramatic behavior that may be unrealistic representations of primate behavior, ecology, and conservation” (pg. 6).

Discussion of conservation has been limited over the entire history of primate documentary film, but a promising development over the past decade is that conservation issues have begun to be addressed in some films (Richards, 2013). This may be in response to calls from within the industry for reform, and specifically for an increased discussion of conservation issues (Booth, 2017; Martin, 2014; Monbiot, 2002; Palmer, 2010, 2011, 2015), or it may be in response to the shifting norms of audiences (Martin, 2014). That is, more environmentally-conscious viewers who have become increasingly concerned about climate change and related issues (Leiserowitz et al., 2013) may expect such issues to be addressed in a program about nature. Most likely, both of these factors have played a role.

By necessity, all of these films diverge somewhat from reality, but there are substantial differences in the degree of these divergences from truth. The inaccuracies depicted in primate documentaries may profoundly impact audience understanding and misperception of primate behavior and ecology in the real world.

1.5 Impacts of primate documentaries on audiences

Although the portrayal of primates in documentaries is an underexplored area of research, some related research suggests the importance of better understanding how primates are portrayed, especially the impact that these portrayals have on public perceptions. Most research to date on non-human primates in television has focused on animal actors appearing in non-documentary television (e.g. commercials and television shows). For instance, Schroepfer and colleagues (2011) found that participants were less likely to identify chimpanzees as endangered after viewing commercials in which chimpanzees were portrayed in anthropomorphic situations

compared to participants who watched a chimpanzee conservation commercial or control footage of wild chimpanzees. Similarly, Ross and colleagues (2008) found that survey respondents were less accurate at identifying chimpanzees as endangered than they were at identifying gorillas and orangutans as endangered. When asked to explain why they did not think chimpanzees were endangered, nearly a third of respondents cited the frequency of chimpanzees in popular media and as pets. Follow-up research showed that when people viewed photos of chimpanzees and humans together, or chimpanzees in anthropogenic settings, they were more likely to believe that wild chimpanzee populations were healthy and stable (Ross, Vreeman, & Lonsdorf, 2011).

Viewers trust wildlife documentaries to present accurate information about animals (Pollo, Graziano, & Giacoma, 2009). Unlike television programming that presents wild animals in anthropogenic situations, wildlife films (including those featuring wild primates) are typically viewed as culturally acceptable, even scholarly (especially if produced by respected institutions like the BBC) (Chris, 2006). The acceptance of these films may be positive in some cases. For example, when a narrator provides accurate information about an animal's conservation status, behavior, or biology, this information may be trusted and retained. However, the typical wildlife film is produced by a for-profit company, intended for a broad audience, and is not made to deliver a specific message or conservation imperative (Bousé, 2000). As such, the acceptance of these films may also lead to negative consequences. If an endangered primate is presented as living in a pristine habitat free from the influence of humans and separated from anthropogenic impacts, as is often the case in blue chip films (e.g. *People of the Forest: The Chimps of Gombe*, 1989), audiences may be more likely to believe that the endangered animal is common and has a healthy population size.

Cultivation theory states that the more time a person spends watching television, the more likely they are to believe that reality aligns with the world they see portrayed on television (Gerbner & Gross, 1976). Research has shown that extensive television viewing is related, for example, to inaccurate beliefs about health and nutrition (Gerbner et al., 1981), the likelihood of being the victim of a violent crime (Gerbner et al., 1980), and the prevalence of alcohol consumption (Beullens, Roe, & Van den Bulck, 2012). If the same principle applies to wildlife films, audiences might come away with a skewed understanding of wildlife. As Attenborough (1961) pointed out, it may take him months to gather footage of a variety of animals in a habitat, but when those clips are edited together into a film, it gives the impression of a forest teeming with life. In the past, such misperceptions may have been countered by viewers also spending time out in nature, but research has shown that American children's "screen time" (including watching television) is increasing (Lewin, 2011), while the amount of time people spend on nature-based recreation (e.g. camping and hiking) is decreasing (Pergams & Zaradic, 2008). It seems that, for audiences accustomed to the fast-paced, action-filled, stunningly beautiful world of documentary film, the real world of nature and wildlife cannot possibly measure up (Bousé, 2000; King, 1996). In addition, wildlife documentaries—especially primate documentaries—typically are set in places far away from the Western audiences for which they are typically intended (Wright, 2010), making it unlikely that most people will visit those places and have the opportunity for first-hand experiences to correct any false impressions.

Some research has examined how audience perceptions are influenced by viewing wildlife documentaries more generally (i.e. not specifically focused on primates). Barbas and colleagues (2009) found that showing students a documentary about insects increased their knowledge about insects and their environmental sensitivity, at least in the short term. Similarly,

Fortner (1985) found that watching a documentary about marine mammals resulted in increased knowledge about marine mammals and produced positive attitude changes toward these mammals such that viewers were more supportive of marine mammal conservation. Finally, Clark (2006) found that regular viewers of blue chip wildlife films engaged in a higher number of conservation actions than infrequent viewers of blue chip films. However, this correlational finding is difficult to interpret because conservation-minded environmentalists may prefer to view wildlife films (Palmer, 2011).

Despite the dearth of research on the impacts of primate documentaries on audience perceptions, many scholars believe that documentaries are effective tools for inspiring audiences to take conservation action on behalf of primates. Palmer (2010, 2015) is convinced that wildlife films are such a powerful tool that they could literally alter the fate of the planet by inspiring people to change their behavior. Similarly, Goodall (2015) claimed that watching footage of a chimpanzee grooming her infant would make viewers more likely to conserve chimpanzees and their habitats. In the same vein, Pollock (2015) expressed concerns that honest representations of primates (e.g. aggressive interactions among chimpanzees) could undermine conservation efforts by negatively impacting public opinion. Many scholars seem to believe in the power of film to change attitudes and behaviors, but some research suggests that nature documentaries do not increase feelings of connectedness to nature (Arendt & Matthes, 2016).⁴ There is little research in support of the view that nature documentaries change people's attitudes and behaviors, aside from a couple of non-experimental studies showing that watching nature documentaries is associated with greater pro-environmental behaviors (Clark, 2006; Holbert, Kwak, & Shah, 2003). In those cases, the relationship may be driven by the fact that people who engage in pro-

⁴ However, the same study showed that when people who already feel a strong connection to nature view a segment of a nature documentary, it can increase the likelihood that they will preferentially contribute money to an environmental organization over other types of charities (e.g. homeless support, children's aid).

environmental behaviors also watch nature documentaries, and nature documentary viewing may not be driving those behaviors. The common belief of scholars about the power of film may be based on anecdotal evidence (Wright, 2010). As Ingram (2013) said, “there may be an element of wishful thinking in believing that more acute sensory awareness will in and of itself lead to better attitudes and behavior towards our environment” (pg. 47). For now, it is unclear to what degree wildlife films impact audience beliefs and attitudes, or inspire people to act, but it seems likely that *some* films do inspire people to act *sometimes* (Arendt & Matthes, 2016; Bousé, 2000). To most effectively educate audiences and inspire conservation behavior, wildlife films should be placed in a larger context, such as a conservation education curriculum or an activist outreach program that provides clear suggestions for how to enable conservation (Palmer, 2011; Wright, 2010). In short, to enable behavior changes in viewers, films should present accurate information, a conservation message, and suggestions for specific conservation actions (Saunders, Brook, & Myers, 2006). Organizations such as Filmmakers for Conservation are working to produce films that meet these standards.

Unfortunately, wildlife documentaries frequently misrepresent wildlife. Misrepresentations of wildlife have the potential to undermine audiences’ understanding of primates and their likelihood of engaging in conservation behaviors. These misrepresentations range from minor, unintentional errors to massive, planned deceptions. To better understand how audiences are affected by primate documentaries, it is critical to determine the content of these films, in particular how primates are being portrayed.

1.6 Wildlife films’ divergence from reality

Concerns about the accuracy of wildlife representations in popular media were prevalent even before wildlife films were widespread (Burroughs, 1903; Burroughs, 1905). Theodore Roosevelt

expressed concern about “nature fakers” who inaccurately portrayed wildlife and nature in books and articles, citing instances of exaggeration and pure fantasy in accounts claiming to be true to life (Roosevelt, 1907). When wildlife film emerged, these concerns carried over into the new medium.

Filmmaker Wolf Koenig said of documentary film, “Every cut is a lie...but you’re telling a lie in order to tell the truth,” (as quoted in Aufderheide, 2007, pg. 53). Indeed, documentary film, including wildlife films, require some manipulation of reality (Richards, 2014). Moreover, audiences would be uninterested in completely accurate depictions of wildlife, as Bousé (2000) pointed out: a factual representation of lions’ lives would show them resting for more than eighty percent of the film. Thus, since the origin of wildlife cinema, presenting wild animals to the public has required taking some artistic license (Richards, 2014). This artistic license seems to have been pushed to the limits over the past two decades, leading some scholars to question whether wildlife films should even be classified as documentaries (Adcroft, 2010; Bousé, 1998). Pressures to compete with other programming for ratings has led to innovations in wildlife film (Kilborn, 2006). Chief among these are the incorporation of other genres and formats (e.g. reality television and sitcoms) into the formats of wildlife documentary, leading to creations like the docudrama and the docusoap. The push for ratings and the focus on entertainment has created an environment where audience engagement and entertainment are paramount (Adcroft, 2010), and concerns about accuracy and education are secondary if considered at all.

The myriad ways in which filmmakers mislead audiences are varied and range from minor edits to major deceptions. The most disturbing examples involve animal abuse, perpetrated to force the animal to engage in a behavior that will result in exciting footage (Palmer, 2011). Instances of abuse are met with disappointment and even outrage when uncovered by audiences

(Palmer, 2015). However, most types of audience deception are morally ambiguous rather than obviously wrong (Palmer, 2011). Boswall's (1997) inclusive definition of audience deception encompasses anything from pairing misleading music with footage (e.g. to make two animals appear like they are having a tense interaction) to baiting animals or confining them in an enclosure. Some instances of deception are based on what happens during the filming process. Indeed, Boswall (1997) suggested that any intervention on the part of filmmakers that makes an animal behave unnaturally should be considered audience deception. Attenborough (1961) described an example in which a large stockade was constructed in the forest and baited, and then gorillas were herded into the stockade. The confinement of the gorillas in the stockade made them much easier to film, but the situation was contrived rather than naturally occurring. A contrived situation is referred to as an "arrangement" by Attenborough (1961) and as "staging" by Bousé (2000) and Palmer (2010). Another deceptive filming practice is when filmmakers film captive animals with the intention of presenting that footage as though it were filmed in the wild. Some captive animals may be filmed at zoos or nature parks, others are rented from game farms for the purposes of filming (Palmer, 2010; Palmer, 2015).

Whereas the orchestration of deception sometimes occurs during filming, other times it occurs during the editing process, sometimes against the best intentions of the filmmaker (Boswall, 1962). One misleading editing practice is splicing footage together to give the impression of a chain of events that did not happen (Aufderheide, 2007). For example, footage of an alarm-calling monkey may be alternate with footage of a predator such as a tiger resulting in the impression that the tiger is stalking the monkey. In reality, the monkey and tiger may have never encountered one another. Another misleading editing technique is adding studio-produced sound to footage filmed in the wild (e.g. adding the sound of shaking branches to footage of

monkeys moving through the trees) (Bousé, 2000; Palmer, 2011). Perhaps the most egregious editing deception technique is digital manipulation, such as computer-generated modification or speeding up and slowing down footage (Boswall, 1986; Palmer, 2010; Palmer, 2015).

Misleading techniques are exceedingly difficult to study because they are designed to be undetectable to the audience. Many examples of audience deception are known only because of the confessions of people involved in the filmmaking process (e.g. Attenborough, 1961; Boswall, 1962, 1986, 1997; Palmer, 2010; 2011; 2015).

In addition to misleading techniques, another issue regarding the accuracy of wildlife documentaries is the representation of biodiversity. Films that only represent the most interesting aspects of biodiversity may present a skewed reality to audiences. Given the appeal and ease of locating some primate species compared to others, differential representation across primate species in nature documentaries seems likely. A similar trend was observed by Clucas, McHugh, and Caro (2008), who found that orangutans and gorillas are more frequently featured on the covers of conservation and nature magazines like *National Wildlife* than are other primate species. Another recent study showed that the great apes are disproportionately represented in the published literature (Marshall et al., 2016). However, more representation may not mean better representation. As Ross and colleagues (2008) showed in the research described above about misperceptions of chimpanzee conservation status, sometimes increased exposure to a primate species can lead to a greater misunderstanding.

1.7 Primate portrayal and ethics

Considering the practice of misrepresenting wildlife to audiences of documentaries (Attenborough, 1961; Bousé, 2000; Palmer, 2010, 2015) and the potential impacts of primate documentaries on audiences' beliefs, attitudes, and even actions, (Arendt & Matthes, 2016;

Clark, 2006; Holbert, Kwak, & Shah, 2003), it seems possible that misrepresentations of wildlife could have real-world impacts on wildlife populations. In that case, filmmakers and their collaborators face an ethical dilemma. Is some degree of audience deception a necessary byproduct of the artistic license that is required in making a film? Or is any amount of audience deception an unethical tool that deludes audiences into believing in a vision of wildlife that does not exist? Scholars have argued in favor of both viewpoints (Boswall, 1997; Richards, 2014).

This ethical conundrum is typically considered from the perspective of filmmakers, but I suggest that primatologists (and other animal researchers) also have a responsibility to consider these issues. Primatologists are frequently consulted during the making of primate documentaries, and as such, primatologists are uniquely situated to advocate for the accurate representation of primates. Although filmmakers may not always incorporate suggestions for making primate representations more accurate, the popularity of primate documentaries and the potential impacts on real-world primate populations make such efforts worthwhile.

1.8 Dissertation structure

In order to better understand the portrayal of primates in wildlife documentaries, this dissertation examined the representation of primate biodiversity in documentary film, the representation of primate behavior in such films, and the use of these films for educational purposes. Primate portrayal was based on analysis of the content of over 200 primate documentaries. Specifically, I evaluated whether primate species are proportionally represented, whether primate behavior and ecology is accurately depicted, and how primate documentaries are used in college-level anthropology education.

In the following three chapters, along with my co-authors Bryan L. Koenig and Crickette M. Sanz, I delve into the representation of primates in documentary film and the use of these

films for educational purposes. In chapter two, “Teaching Anthropology with Primate Documentaries: Investigating Instructors’ Use of Films and Introducing the Primate Films Database,” we establish that primate documentaries are widely used among college-level anthropology instructors as teaching tools (Riley Koenig, Koenig, & Sanz, 2018). Instructors tended to prefer films that were entertaining, accurate, and featured many species. Chapter two also introduces the Primate Films Database, a publicly available resource that we developed as a resource for instructors and others who have an interest in primates. The Primate Films Database (Riley Koenig & Sanz, 2017) will be updated biannually as new films are released. Appendix A includes the current version of the Primate Films Database.

Chapter three, “Overrepresentation of Flagship Species in Primate Documentaries and Opportunities for Promoting Biodiversity,” investigates which species are featured in primate documentaries (Riley Koenig, Koenig, & Sanz, under review). Our analysis of 210 primate documentaries found that only a fraction of the full scope of primate biodiversity is being represented on screen. Furthermore, representation across primate taxa is neither equal nor proportional based on the number of species in each taxon. Rather, some taxa are overrepresented and others are underrepresented.

In chapter four, “The Representation of Primate Behavior and Ecology in Wild Primate Documentaries,” we consider whether primate behavior is realistically portrayed in primate documentaries (Riley Koenig, Koenig, & Sanz, in preparation). Overall, documentary depictions of primate behavior deviated from researcher accounts of primate behavior in the wild for some species, but not for others. Finally, chapter five summarizes this body of research and delineates the broader implications of this research.

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Chapter 2: Teaching Anthropology with Primate Documentaries: Investigating Instructors' Use of Films and Introducing the Primate Films Database

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2.1 Introduction

The college classroom has changed dramatically over the past several decades as technology has advanced and become increasingly incorporated into courses. Increased use of multimedia in classrooms is due, in part, to technological advances that have made video capabilities nearly ubiquitous in college classrooms and to decreasing costs for films over the past several decades (Berk, 2009). Instructors across disciplines now regularly teach with videos, from brief clips embedded in lecture slides to feature-length films that comprise an entire class period or more. Documentary films are a common teaching tool in many disciplines (Berk, 2009), but their use in higher education is little understood. Most research has focused on the use of documentaries in secondary-school teaching (e.g., Barbas, Paraskevopoulos, & Stamou, 2009; Dhingra, 2003; Fortner, 1985; Kelley, Gunter, & Buckle, 1987) with limited research at the college level (e.g., Berk, 2009). Research on the effectiveness of videos in classroom instruction has shown that they help to draw and hold students' attention (Berk, 2009; Dhingra, 2003), help students to make emotional connections with content (Champoux, 1999), can improve acquisition and retention of knowledge (Fortner, 1985), and can increase students' sensitivity to environmental issues (Barbas, Paraskevopoulos, & Stamou, 2009; Fortner, 1985). Researchers interested in the

use of documentaries in classrooms frequently focus on the result of viewing one or two specific documentaries to examine the pedagogical effectiveness of particular films (e.g., Barbas, Paraskevopoulos, & Stamou, 2009; Owens, 1987). Little research has examined which films instructors use and whether they find those films helpful for accomplishing their teaching goals.

The use of documentaries is likely more common in anthropology than in other disciplines (Bird & Godwin, 2006). Anthropology lends itself well to visual representation—cultural traditions and primate behavior, in particular, may be better depicted through documentary footage than through verbal explanation alone. Documentaries may be especially valuable teaching tools for instructors at institutions without easy access to zoos or museums (Durham, 1993). Film has long been recognized as an important teaching tool in cultural anthropology (Asch, 1975; Heider, 1997; Ruby, 2005), but there has been less discussion and assessment of the use of film in biological anthropology, even though films are also commonly used in that subfield.

Documentary films are especially relevant for teaching about primate behavior, which can often be more easily shown than explained. Thus, the multimedia principle of learning applies to teaching about primates. This principle states that people learn better when presented with both words and images rather than either words or images alone (Mayer, 2005). For example, showing a video of quadrumanous locomotion by orangutans would be more instructive than a stand-alone explanation of such behavior, especially if the video were properly contextualized, perhaps with an explanation of the physiology enabling quadrumanous locomotion. Research on the use of ethnographic film for teaching cultural anthropology has reached a similar conclusion. Such films can be powerful and effective tools when students are provided with context before seeing the film and allowed time afterward for discussion (Bird &

Godwin, 2006; Heider, 1997). In a thorough literature review, we found no studies about the effectiveness of biological anthropology films specifically, but research on the broader genre of wildlife documentaries (which includes films about primates) confirms that wildlife films are effective tools for teaching and for altering students' attitudes toward the environment, at least in the short term (Barbas, Paraskevopoulos, & Stamou, 2009; Fortner, 1985).

In addition to the general dearth of research on biological anthropology documentary films, there is a lack of current reviews of these films. Until the late 1990s, reviews of biological anthropology documentary films were common in the field's most prominent journals, including *American Anthropologist* and *American Journal of Physical Anthropology*. Some of primatology's most influential scholars published reviews of films and commented on their usefulness for research and teaching purposes (e.g., Dolhinow, 1973; Fleagle, 1973; Smuts, 1973; Tinbergen, 1973). In 1973, *American Anthropologist* published more than forty reviews of films focused on free-ranging primates. The following year, an editorial note announced the reduction of the number of film and book reviews due to space and monetary limitations (Manners, 1974). In the subsequent three decades, *American Anthropologist* published only ten reviews of films focusing on free-ranging primates and none over the past twelve years. The last large-scale review of biological anthropology films (and other audiovisual materials, such as slide sets) was published in the *Yearbook of Physical Anthropology* in 1993 (Durham, 1993). The films reviewed in *American Anthropologist* and in Durham (1993) were almost exclusively produced for educational purposes and not for more general audiences, even though educational film production had decreased over the prior few decades (Durham, 1993) and popular films are now frequently used for instructional purposes in college courses (Berk, 2009). Durham (1993) set a precedent by collating biological anthropology film resources for instructors, but that

resource is in need of updating and expanding to include films that were left out of the initial collection, films released in the past twenty-four years, and documentary films produced for popular audiences but potentially used in classrooms.

In contrast to the current lack of biological anthropology film reviews, film reviews are frequently published in other anthropology subfields. The Society for Visual Anthropology focuses exclusively on ethnographic films about humans, and journals such as *Visual Anthropology Review* and *Visual Anthropology Journal* frequently publish reviews of films relevant to cultural anthropology. Moreover, films produced for popular audiences are generally excluded from the scientific discourse in biological anthropology, but in sociocultural anthropology it is generally acceptable to publish reviews not only of ethnographic documentaries but also of documentaries intended for general audiences, fictional films, and even experimental films that are relevant in some way to sociocultural anthropology (Stoller, 1996). At present, there is no obvious venue for publishing reviews of videos relevant to biological anthropology, although *American Anthropologist's* increased focus on digital publication (Benton & Bonilla, 2017) may mitigate aforementioned space and monetary limitations, potentially allowing for the publication of more film reviews in the future.

As a first step toward better understanding the prevalence and use of primate documentaries in the teaching of college-level biological anthropology, we conducted a survey of anthropology instructors. Specifically, we were interested in the following questions: (1) Are documentary films a common tool for teaching about primates?; (2) Which films are most commonly shown?; (3) Does the use of films differ based on instructors' level of experience?; (4) What characteristics are most commonly attributed to films, and how do those characteristics relate to film usage?; and (5) What role does accessibility play in instructors' decisions about

which films to show? We incorporated results of this survey when creating the Primate Films Database, a publicly accessible online database that provides a modern venue for primate film reviews. The database will connect instructors with the best resources to achieve their teaching goals by providing reviews, featured-species identifications, and other relevant information.

2.2 Method

2.2.1 Survey

We created a survey using qualtrics.com, an online survey platform. We avoided research questions that would have compromised the anonymity of survey participants (e.g., asking people where they teach). After an informed consent page, the survey asked the following questions: “During which decade did you **first** teach an anthropology course that covered primates or primatology in some way?” and “During which decade did you **most recently** teach a course that covered primates or primatology in some way?” Both questions had a drop-down response menu, with options for seven decades, starting with the 1950s. The third question asked, “Which type(s) of courses do you generally teach? Select all that apply,” with the options “Introductory level – undergraduate,” “Advanced undergraduate,” and “Graduate level.” The next question, “In your class(es), did you ever show a video or film (or a portion of a video or film) about free-ranging primates?” had response options “yes” and “no.” Choosing “no” led to the question, “Why didn't you show films about free-ranging primates to your class(es)?” and then to a final page thanking participants for their responses. Choosing “yes” led to a series of seven screens showing alphabetized lists of films about free-ranging primates.

The seven consecutive screens of alphabetized lists presented a total of 152 films that were produced between 1900 and 2015. Each screen presented films for one taxon (in order: various species; African apes; Asian apes; African Old World Monkeys; Asian Old World

Monkeys; New World Monkeys; and Lemurs, Lorises, and Tarsiers). Participants were asked to select any films that they had ever shown to their classes (even if they had shown only a segment of the film). Each film name in the list contained a hyperlink that participants could click to get more information about the film. Typically, links led to the film's information on the Internet Movie Database (IMDb), Wikipedia, or WildFilmHistory, whichever had the most detailed information for that particular title. At the end of each list was an option for selecting "YouTube clip or other Internet video," and another option for writing in a title that was not already listed.

After participants selected which films they had shown, a series of pages asked participants to answer follow-up questions about each selected film. The questions were populated with the title of the film. For example, if an instructor indicated that she showed *Monkey Planet*, the following questions came up, "You mentioned that you showed **Monkey Planet (2014)** in your course(s). Please rate this film on how useful it was for teaching purposes," with a 1 to 5 response scale, anchored at 1 (not at all useful), 3 (moderately useful), and 5 (very useful). The second question read, "Which of the following adjectives would you use to describe **Monkey Planet (2014)**? Select all that apply, if any," with the following options: Accurate; Anthropomorphic; Conservation-oriented; Entertaining; Misleading. The adjectives included in the list were identified by a focus group of anthropologists as being important considerations when selecting films to show to their classes. The third follow-up question asked, "Approximately how many times have you shown **Monkey Planet (2014)** in your class(es)?" with an open-response text box where participants could type their answer. The same three questions appeared for each film selected during the survey.

After answering these questions for each of the films shown, participants arrived at the final page of the survey, which asked three general questions and thanked participants for their

responses. The last three questions follow: “When choosing a primate film to show in class, how much does accessibility affect your decision?” with a 1 to 5 response scale, anchored at 1 (not at all) and 5 (It is the main factor in my decision); “If you have ever noticed any **misleading or inaccurate content or narration** in a documentary about free-ranging primates, please explain what you noticed. Include the title of the film(s), if possible,” with an open-response text box where participants could type their answer; and, finally, “If you have any additional comments about primate documentaries or about this survey, please add them here,” with an open-response text box where participants could type their answer.

2.2.2 Participants

The targeted population was anyone who has taught an English-language college-level anthropology course that included content about free-ranging primates. The survey was completed by 239 instructors who have taught college anthropology courses. After eliminating responses with duplicate IP addresses, 219 instructors were included in final analyses.

Participants were recruited by several methods. First, we used a modified form of snowball sampling in which we emailed biological anthropology instructors, who we found by searching webpages for all currently accredited colleges and universities in the United States. The email specified that the study was intended for college-level instructors who had “taught any anthropology courses with content about free-ranging primates (even if you did not show documentaries as part of that course).” Instead of using the traditional snowball sampling technique of asking participants to refer other potential participants, we asked that participants share our recruitment email with colleagues. We also posted the survey link on relevant Facebook pages (e.g., the Teaching College Anthropology and Anthropology Now Facebook groups), and posted flyers at the joint meeting of the International Primatological Society and the

American Society of Primatologists in August 2016. The survey and data collection methods were granted exempt status by the Institutional Review Board at Washington University in St. Louis.

2.2.3 Statistical Analyses

The unit of analysis was instructors for some analyses and films for other analyses. For many analyses, the dependent variables were counts, such as the number of films each instructor had shown or the number of instructors who had shown each film. Such counts have a true zero (no negative values) and consistent intervals between values, so they have a ratio scale of measure, and appropriate analyses include mean comparisons and correlations. We treated instructor ratings as having an interval scale of measure in order to maximize power. When possible we report parametric statistical tests, but if preliminary analyses indicated that parametric-test assumptions were violated we instead report nonparametric alternatives. Due to small sample sizes, we combined instructors who taught fifty or sixty years into one group and we combined films made in the 1930s, 1940s, 1950s, and 1960s into one group.

2.3 Results

All questions were optional, so the number of responses varied across questions. Table 2.1 summarizes the distribution of when participants first taught an anthropology course with material about primates. Regarding most recent teaching, 95.4 percent of instructors ($n = 207$) reported having taught such a course in the current decade, with the remainder ($n = 10$) having taught most recently between 2000 and 2009.

TABLE 2.1 Decade participants began teaching courses that include primate subject matter.

Decade	n	Percent
1960s	3	1.4
1970s	10	4.6
1980s	22	10.1
1990s	46	21.2
2000s	81	37.3
2010s	55	25.3
Total	217	100.0

Of 219 instructors, 96.3 percent had shown at least one film in a class. Instructors who had not shown films had fewer years of teaching experience than those who had shown films, ($t(214) = 2.35, p = .02$). The most common explanation for showing no films (cited in three of the eight responses) was prioritizing other teaching methods, such as lecture or reading.

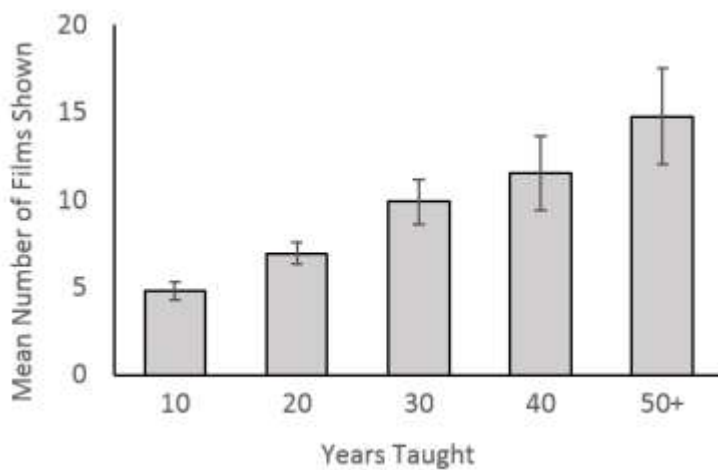


FIGURE 2.1 The mean number of films instructors showed and the number of years instructors had taught, with standard errors

We examined the 211 instructors who reported showing films to their classes and found that instructors who began teaching earlier showed a greater number of films over their careers compared to instructors who began teaching more recently, based on the Kruskal-Wallis test, ($H(4) = 25.15, p < .001$) (Figure 2.1).

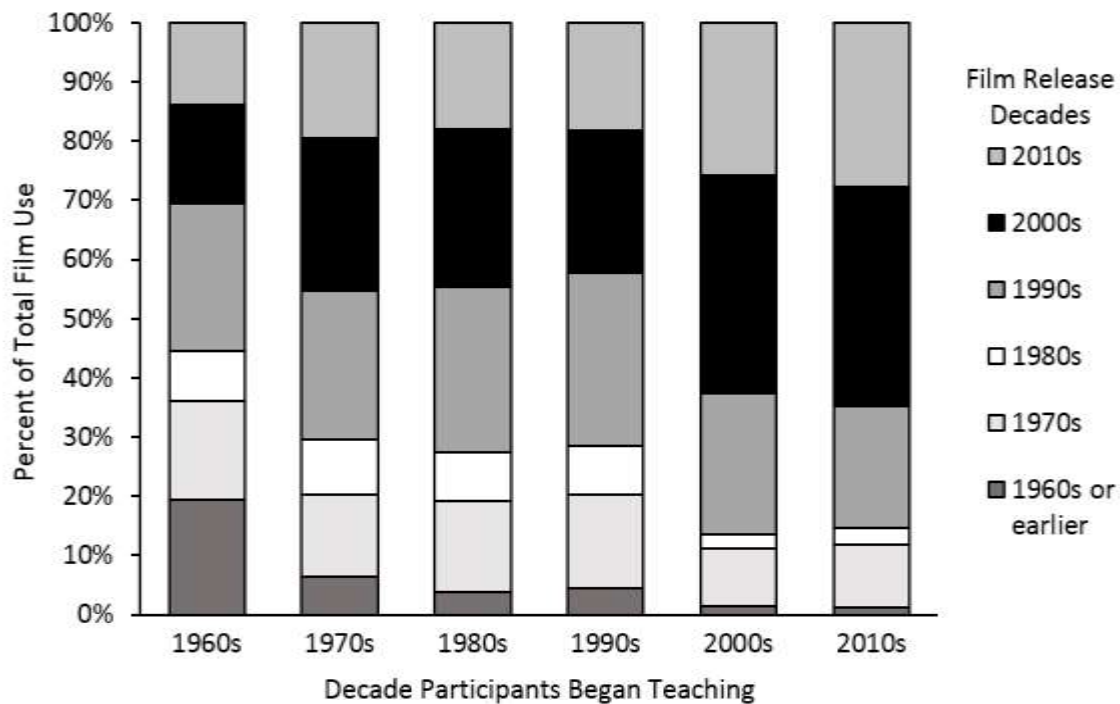


FIGURE 2.2 The percentage of films used by release date and when instructors began teaching

Films from different decades did not differ significantly in how many instructors showed them, ($F(5, 119) = 0.33, p = 0.895$). Rather than only showing the films that were available at the time they began teaching, instructors continued to incorporate new films into their courses. For example, instructors who began teaching in the 1960s reported 80.6 percent of the films they had ever shown were released in the 1970s or later (Figure 2.2).

Regarding accessibility, on a scale of 1 (not at all) to 5 (It is the main factor in my decision), 182 participants had a mean rating of 4.04 ($SD = 0.90$). Length of teaching experience was not significantly associated with the degree to which accessibility impacted decisions about which films to show ($r = -0.13, p = 0.091 [n = 182]$), or with whether or not instructors used YouTube or other Internet videos ($t(201) = 0.41, p = 0.681 [n = 203]$).

In each section, participants had the option to select “YouTube or other Internet video” or “not listed above” and then write in information. Of the 203 participants who answered the questions about which films they had shown, 52 percent reported having used YouTube or Internet video(s). The most commonly cited Internet source was ARKive (www.arkive.org), with twenty-seven participants referencing that source. Free-text responses included fifteen primate documentaries that matched our inclusion criteria (i.e., released between 1900 and 2015, a focus on free-ranging primates) but were missed in the original film list. Of these fifteen films, the most commonly shown were *Lemurs with John Cleese* ($n = 22$) and *Baboon Tales* ($n = 21$). The other thirteen films were shown by between one and five participants. These write-in documentaries were included in the analyses whenever possible and are included in the online database.

Of the 152 films presented to instructors, thirty-six (23.7 percent) were shown by no instructors, and thirty-two (21.1 percent) were shown by ten or more instructors. Table 2.2 lists films shown by at least ten instructors. The number of films shown by instructors did not differ significantly across the seven taxa, Kruskal-Wallis test, ($H(6) = 4.32, p = 0.634$). Of the 110 films rated on a 1-to-5 scale for teaching usefulness, the mean rating was 3.81 ($SD = 0.63$). Films shown by more instructors had higher teaching-usefulness ratings, ($r = 0.22, p = 0.021 [n = 110]$). The total number of times a film was shown (including repeat uses by instructors) across all instructors also positively correlated with mean teaching usefulness, ($r = 0.22, p = 0.024 [n = 110]$). A complete summary of the ratings for all of the films included in the survey is in Appendix A (Table A.1). Appendix B includes a list of the thirty-six films that were included in the survey but shown by no instructors (Table B.1), and Appendix C contains a list of the fifteen write-in films (Table C.1).

TABLE 2.2 Films shown by at least 10 instructors, in descending order of teaching usefulness.

#	Film Title (Year Released)	Showed Film (n)	Rated Film (n)	Teaching Usefulness	
				Mean	SD
1	BBC Life: Primates (2009)	96	83	4.22	0.73
2	Life on Earth: Life in the Trees (1979)	91	73	4.27	0.92
3	The Life of Mammals: Social Climbers (2003)	82	74	4.51	0.73
4	Nature: Clever Monkeys (2008)	78	70	4.04	0.94
5	The New Chimpanzees (1995)	50	40	4.48	0.68
6	Jane Goodall's Wild Chimpanzees (2002)	47	38	3.89	0.80
7	Nature: Snow Monkeys (2014)	32	26	4.12	0.91
8	Nature: Gremlins: Faces in the Forest (1998)	29	23	4.35	0.78
9	Nature: A Lemur's Tale (1997)	26	22	4.09	0.87
10	Island of Lemurs: Madagascar (2014)	23	17	3.88	0.86
11	Virunga (2014)	22	20	4.40	0.75
12	Nature: Jane Goodall's Wild Chimpanzees (1996)	22	16	4.06	0.85
13	Nature: Monkey Island (1991)	20	14	4.36	0.63
14	Nature: Mozu the Snow Monkey (1989)	20	16	4.00	1.10
15	People of the Forest: The Chimps of Gombe (1989)	19	14	3.64	0.84
16	Jane Goodall: Studies of the Chimpanzee (1976-77)	18	12	3.92	0.79
17	Nature: The Last Orangutan Eden (2015)	18	15	3.87	0.92
18	Nature: Mask of the Mandrill (1996)	17	15	3.80	0.86
19	The Gorilla King (2008)	16	13	4.54	0.66
20	Nature: Mystery Monkeys of Shangri-La (2015)	16	14	4.21	0.89
21	Chimpanzee (2012)	16	12	4.08	1.16
22	Monkey Kingdom (2015)	15	12	3.75	0.97
23	Survey of the Primates (1970)	15	10	3.00	0.82
24	My Life Among Wild Chimpanzees (1967)	14	9	4.22	1.09
25	Wildlife on One: Pygmy Chimpanzee: The Last Great Ape (1997)	12	4	5.00	0.00
26	Titus: The Gorilla King (2008)	12	10	4.60	0.70
27	Nature: Madagascar: Island of Ghosts (1991)	12	11	3.82	0.75
28	The Natural World: Three Monkeys (1998)	11	10	4.30	0.67
29	The Great Apes (1970)	11	8	3.13	0.64
30	Miss Jane Goodall and the Wild Chimpanzees (1965)	10	7	3.86	0.90
Documentary Educational Resources: Five Species					
31	(1997)	10	10	3.60	0.97
32	Nature: Tiwai: Island of the Apes (1992)	10	9	3.44	0.88

Of all films considered, including write-ins, the mean number of instructors who showed each film was 7.37 ($SD = 14.84$). There were four outliers: *BBC Life: Primates* (2009) was shown by ninety-six instructors (44 percent of participants); *Life on Earth: Life in the Trees*

(1979) was shown by ninety-one instructors (42 percent of participants); *The Life of Mammals: Social Climbers* (2003) was shown by eighty-two instructors (37 percent of participants); and *Nature: Clever Monkeys* (2008) was shown by seventy-eight instructors (36 percent of participants).

After selecting which films they had shown, follow-up questions asked instructors to select from a list the adjectives that they felt described each selected film. Participants could select as many adjectives as they felt were applicable, or none. Table 2.3 summarizes responses for films shown by at least ten participants.

TABLE 2.3 Characteristics of commonly shown films (boldfaced numbers are the most frequently chosen adjective for each film).

#	Film Title (Year Released)	Selected at Least One Adjective	Accurate n (%)	Entertaining n (%)	Misleading n (%)	Conservation- oriented n (%)	Anthropo- morphic n (%)
		(n)					
1	BBC Life: Primates (2009)	78	57 (73)	45 (58)	3 (4)	15 (19)	29 (37)
2	The Life of Mammals: Social Climbers (2003)	70	61 (87)	45 (64)	1 (1)	12 (17)	19 (27)
3	Life on Earth: Life in the Trees (1979)	68	45 (66)	40 (59)	9 (13)	11 (16)	13 (19)
4	Nature: Clever Monkeys (2008)	65	44 (68)	46 (71)	6 (9)	6 (9)	29 (45)
5	The New Chimpanzees (1995)	36	30 (83)	24 (67)	2 (6)	13 (36)	12 (33)
6	Jane Goodall's Wild Chimpanzees (2002)	32	18 (56)	16 (50)	1 (3)	15 (47)	12 (38)
7	Nature: A Lemur's Tale (1997)	22	16 (73)	14 (64)	2 (9)	8 (36)	12 (55)
8	Virunga (2014)	21	12 (57)	9 (43)	0 (0)	19 (90)	0 (0)
9	Nature: Snow Monkeys (2014)	20	16 (80)	16 (80)	2 (10)	5 (25)	6 (30)
10	Nature: Gremlins: Faces in the Forest (1998)	18	17 (94)	11 (61)	1 (6)	9 (50)	5 (28)
11	Nature: Mozu the Snow Monkey (1989)	15	9 (60)	10 (67)	1 (7)	4 (27)	10 (67)
12	Nature: Mask of the Mandrill (1996)	13	12 (92)	6 (46)	0 (0)	5 (38)	2 (15)
13	Nature: Monkey Island (1991)	13	12 (92)	4 (31)	0 (0)	3 (23)	1 (8)
14	Nature: Mystery Monkeys of Shangri-La (2015)	13	10 (77)	6 (46)	1 (8)	10 (77)	2 (15)
15	People of the Forest: The Chimps of Gombe (1989)	13	8 (62)	8 (62)	3 (23)	5 (38)	9 (69)
16	The Gorilla King (2008)	13	12 (92)	10 (77)	0 (0)	7 (54)	2 (15)
17	Monkey Kingdom (2015)	12	8 (67)	9 (75)	2 (17)	1 (8)	7 (58)
18	Nature: Jane Goodall's Wild Chimpanzees (1996)	12	7 (58)	7 (58)	0 (0)	6 (50)	4 (33)
19	Nature: The Last Orangutan Eden (2015)	12	10 (83)	3 (25)	0 (0)	10 (83)	1 (8)
20	Nature: Madagascar: Island of Ghosts (1991)	11	9 (82)	3 (27)	3 (27)	9 (82)	4 (36)
21	Titus: The Gorilla King (2008)	11	11 (100)	6 (55)	0 (0)	6 (55)	3 (27)
22	Chimpanzee (2012)	10	3 (30)	8 (80)	3 (30)	0 (0)	7 (70)
23	Documentary Educational Resources: Five Species (1997)	10	9 (100)	0 (0)	0 (0)	0 (0)	0 (0)
24	Jane Goodall: Studies of the Chimpanzee (1976-77)	10	7 (70)	4 (40)	1 (10)	3 (30)	4 (40)
25	The Natural World: Three Monkeys (1998)	10	8 (80)	4 (40)	0 (0)	3 (30)	2 (20)

26	The Natural World: Among the Wild Chimpanzees (1984)	9	7 (78)	6 (67)	0 (0)	3 (33)	2 (22)
27	Nature: Tiwai: Island of the Apes (1992)	7	3 (43)	2 (29)	1 (14)	4 (57)	2 (29)
28	Miss Jane Goodall and the Wild Chimpanzees (1965)	6	3 (50)	2 (33)	0 (0)	1 (17)	3 (50)
29	Survey of the Primates (1970)	6	4 (67)	0 (0)	0 (0)	2 (33)	1 (17)
30	The Great Apes (1970)	5	1 (20)	0 (0)	0 (0)	3 (60)	2 (40)
31	Wildlife on One: Pygmy Chimpanzee: The Last Great Ape (1997)	4	4 (100)	0 (0)	0 (0)	0 (0)	1 (25)
32	Island of Lemurs: Madagascar (2014)	3	2 (67)	1 (33)	0 (0)	1 (33)	1 (33)

We tested whether characteristics of films predicted instructors' ratings of usefulness.

Table 2.4 displays the results of a multiple regression with films as units of analysis. The outcome variable was mean teaching usefulness, which was predicted by the percentage of users of a film who selected each adjective. Films more frequently described as entertaining or accurate were rated as more useful, whereas films more frequently described as anthropomorphic or misleading were less useful. Conservation orientation did not significantly predict ratings for teaching usefulness.

TABLE 2.4 Associations among films' ratings of teaching usefulness and adjectives ascribed to films

Adjective	b	SE b	Beta	<i>p</i> value
Intercept	3.375	0.148		0.000
Accurate	0.008	0.002	0.422	0.000
Anthropomorphic	-0.004	0.002	-0.226	0.014
Conservation-oriented	-0.001	0.001	-0.061	0.466
Entertaining	0.004	0.002	0.220	0.014
Misleading	-0.006	0.002	-0.215	0.013

*Note: $R^2 = 0.574$;
adjusted $R^2 = 0.296$*

2.4 Discussion

Our survey found that documentary films are frequently used and seen as useful teaching tools. Instructors preferentially chose films seen as useful. Films with higher usefulness ratings were described by more instructors as accurate and entertaining and by fewer as misleading and anthropomorphic. But, surprisingly, usefulness did not relate to perceptions of being conservation-oriented. Instructors updated courses to include new documentaries. Use of YouTube and other online videos was common. Indeed, instructors rated accessibility as a major factor determining which films they showed. Somewhat surprisingly, instructors did not selectively present films of any taxon over others.

2.4.1 Instructor Survey

Using documentary films as a tool for teaching students about primates was nearly ubiquitous, with 96 percent of participants having used primate documentary films in their courses. Although the survey recruitment materials stated that instructors' participation was "valuable even if you never showed any films during your course(s)," it is probable that instructors who use documentary films in their classrooms were more likely to participate in a survey about documentary film use. Even so, such a high percentage of participants using films likely indicates that classroom film use is common.

Instructors did not continue to use only those films that were available when they began teaching; rather, instructors continuously incorporated new films into classroom instruction. This conclusion is indicated by two findings. First, instructors who began teaching earlier have shown more films over their longer careers than instructors who began teaching more recently. Second, there was no indication that films from certain decades were shown more than others. However, it is important to consider that films released more recently have had less time to be shown by instructors than films released earlier. So, whereas instructors have had nearly forty years to show *Life on Earth: Life in the Trees* in their courses, they have had less than two years to show *Cheeky Monkey*. Given the shorter amount of time available for showing newer films, lack of a difference in use between older and newer films suggests that instructors are quickly incorporating newer films into classroom instruction. Using newer films likely benefits students, as researchers have found that cultural anthropology students are less interested in older films, which they view as outdated and irrelevant (Bird & Godwin, 2006). These perceptions may be less relevant for wildlife films, which contain less anthropogenic context and thus may remain relevant for longer (Dingwall & Aldridge, 2006), but primate films do become outdated as species names change and habitats are altered. Finally, the finding that instructors who had been

teaching for longer reported showing more films than those who had not been teaching as long suggests that this study's reliance on participants' recall to report which films they had shown was not a major limitation.

Film selection seems to have been driven by at least three factors: coverage of a variety of primate species, accessibility, and teaching usefulness. Instructors did not preferentially show films from any specific taxon, and the most popular films featured primates of many species. This may have been driven in part by the large number of participants (94.5 percent; $n = 205$) who reported teaching introductory-level classes, for which coverage of a wide variety of species might be especially useful. Accessibility played an important role in instructors' decisions about which films to show. Indeed, accessibility may partially explain why instructors incorporate new films into courses, as new films are more likely to be available in usable formats (e.g., DVD or streaming online versus VHS or film reel). These results suggest that it may be worthwhile for anthropology departments to curate their film collections to ensure availability of high-quality instructional films for classroom use. Departments with limited resources for developing film collections may want to focus on films that were most popular among instructors, such as the four outliers mentioned above, or on films featuring a variety of species or films rated as most useful. The Primate Films Database would be especially helpful for directing departments' and instructors' attention to resources of which they were previously unaware.

Internet resources, such as ARKive and YouTube, also play a valuable role in teaching. The extent to which these resources are used and the manner in which they are utilized is an area for further investigation. Despite the importance of accessibility, instructors did not settle for low-quality films that happened to be available. This is indicated by the positive correlation between films' number of users and instructors' mean usefulness ratings. Although the

relationship between use and usefulness seems intuitive, previous research suggests that the association is not always obvious, as instructors sometimes show films without first screening them (Bird & Godwin, 2006). In such cases, instructors may show films that are not particularly useful. Given the adjectives that participants chose for describing films, instructors thought useful films were more accurate and entertaining and minimized misleading content and anthropomorphism; whether a film was described as conservation-oriented was unassociated with its usefulness.

Films with misleading content were seen as less useful on average, but fifteen of the eighty-eight instructors who responded to the optional question about noticing misleading or inaccurate information provided their rationale for how they deal with showing films that contain misleading or inaccurate information. They work to properly contextualize the film for students by correcting information that is wrong or outdated by pointing out misleading filmmaking tactics (e.g., captive footage being presented as though it were filmed in the wild) or by skipping over the misleading portion of the film. This suggests that for teaching purposes some degree of inaccuracy may be tolerable, or even useful. As Derek Bousé (2000) pointed out, a true proportional representation of animal lives would show lions being relatively inactive for forty-two minutes of a fifty-two-minute program, and such a program would be unpopular among viewers. Some instructors use somewhat inaccurate films that convey some underlying truths about animals' ecology and behavior while being entertaining enough to hold students' attention.

One possible limitation of this study concerns the modified snowball sampling technique. Snowball sampling relies on social connections, which may lead to underrepresentation of socially isolated groups (Patrick, Pruchno, & Rose, 1998). Modified snowball sampling may have led to overrepresentation of well-known individuals at elite universities and

underrepresentation of less-connected or lower-profile instructors, such as graduate students, adjunct instructors, and instructors at smaller colleges. We attempted to correct for this potential bias by using multiple methods of participant recruitment (e.g., online outreach, advertising at a conference). We made substantial efforts to recruit participants from small, local colleges as well as participants from more well-known institutions; however, some individuals (e.g., tenure-track professors) had more accessible contact information than others (e.g., adjunct instructors).

2.4.2 Primate Films Database

The Primate Films Database is a comprehensive resource that brings together information on documentary films about free-ranging primates produced over the past 115 years. Its primary purpose is to enable instructors and departments to optimally utilize available resources by providing information about films to enable identification of the best documentary films for achieving specific teaching objectives. It is a publicly available Internet resource so we can continuously update it as new films are released (Riley Koenig & Sanz, 2017; available at <https://anthropology.artsci.wustl.edu/primate-films-database>). This is important, given today's rapid production of primate documentary programming, students' preferences for up-to-date resources (Bird & Godwin, 2006), and challenges associated with traditional journals, including time lags to publication, space limitations, and financial constraints (Manners, 1974). This online database provides a more dynamic venue for film reviews than traditional scholarly journals. In line with calls for making anthropology accessible to the public (Benton & Bonilla, 2017), it is shared freely to all.

The Primate Films Database contains entries for feature films, TV specials, TV series, and single episodes of series, in which the focus is primates in natural settings. Following a screening of each available film, the first author provided her own rating of the film's usefulness

for teaching purposes and wrote a brief review. Reviews focused on teaching and education issues, such as whether the film presented information accurately and in a format likely to hold students' attention. Those ratings and reviews are included for each film, along with mean instructor rating of teaching usefulness as well as other general information, such as runtime, the featured species, and the narrator or host. Unlike previous collections of film reviews (e.g., Durham, 1993), we included reviews even for films that we did not find useful, because this information could be helpful in saving other people the time they may have spent screening a film. Although created for educators, the database may be useful to members of the public with an interest in primatology or nature documentaries, and it could be a valuable tool for researchers in primatology, visual anthropology, and film studies.

2.4.3 Future Directions

The Primate Films Database currently focuses only on documentaries with free-ranging primates. In the future, we hope to expand it to include clips of Internet videos from sources like ARKive and YouTube as well as documentaries focusing on captive primates (e.g., *Ape Genius* and *Project Nim*, both of which were mentioned by survey participants), since these materials are also used in the teaching of anthropology, psychology, and biology. Expanding the database is complementary with future research goals. For instance, future research could examine how researchers search for films to show to their classes and determine which factors (e.g., film format, affordability, ease of access) affect a film's accessibility. The current research focused on anthropology instructors and their use of films that focus on free-ranging primates. In the future, we hope to examine instructors' use of films that focus on captive primates, and to explore whether captive primate films and free-ranging primate films differ in the effects they have on students' learning and on their sensitivity to primate conservation issues. Future research will

also seek to better understand how these films are incorporated into classroom instruction. Finally, previous research has examined the effectiveness of specific documentary films for achieving learning objectives or raising environmental sensitivity (e.g., Barbas, Paraskevopoulos, & Stamou, 2009; Owens, 1987). We plan to explore similar effects by focusing on the four films most commonly used by our participants in order to understand the impacts of the films most frequently presented to students in biological anthropology courses.

2.5 Conclusion

This study was a first step toward systematically examining the use of documentary films in the teaching of biological anthropology. Results indicated widespread use of films by instructors of all experience levels and substantial use of several key films. Recent films were used as frequently as older films, which, given time constraints on showing recently released films, suggests an emphasis on newer films. This emphasis is likely beneficial for students, who generally prefer contemporary resources. Future research will focus on expanding our understanding of documentary use in anthropology by extending our scope to include films focused on captive primates and to better understand how commonly used films affect students' learning and attitudes toward primates. We incorporated the results of this research when creating the Primate Films Database, a comprehensive online database of primate documentary film reviews, instructor ratings, and specifics about each film.

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Chapter 3: Overrepresentation of Flagship Species in Primate Documentaries and Opportunities for Promoting Biodiversity

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3.1 Introduction

Earth is currently experiencing a rapid loss of biodiversity, largely due to human activities (Ceballos, et al., 2015). The profound consequences of human actions highlight the importance of human perception of wildlife and biodiversity. Such perception is in part the result of popular media portrayals of animals (e.g. Ross, et al., 2008). We therefore endeavored to review the impacts that media portrayals have on popular perception of animals and empirically evaluate in particular the relative representation of primates in the documentary genre.⁵ Documentaries may be especially important for influencing how the public thinks of primates, because people outside of primate-habitat countries may see living primates only in captivity and on television. Zoos, museums, and documentaries are especially important educational tools for people without convenient access to wild primates (Durham, 1993). Indeed, primate documentaries are frequently used by college instructors for teaching students about primate ecology, behavior, and biology (Riley Koenig, Koenig, & Sanz, in press). Even when zoos are easily accessible, zoo collections are biased toward animals that are amenable to captivity. For species such as mountain gorillas (*Gorilla beringei*), which are altogether absent from zoos and have limited opportunities for people to view in the wild, documentary films represent the only means that most people will ever have to see a living mountain gorilla. Thus, documentaries are an

⁵ The documentary genre includes feature films, television episodes, and television specials, all of which we refer to as “documentaries” or “films.”

important resource both for educating people about mountain gorillas and other primates not typically found at zoos (e.g. red-shanked douc langurs, *Pygathrix nemaeus*) and for inspiring conservation action on their behalf.

Research has shown that seeing primates on documentary and non-documentary television can impact the way people think about primates. For example, after viewing television depictions of non-human primates, people misperceive primate abundance. Schroepfer and colleagues (2011) found that participants were less likely to identify chimpanzees as endangered after viewing commercials in which chimpanzees were portrayed in anthropomorphic situations compared to participants who watched a chimpanzee conservation commercial or control footage of wild chimpanzees. Similarly, Ross and colleagues (2008) found that survey respondents were less accurate at identifying chimpanzees as endangered than they were at identifying gorillas and orangutans as endangered. When respondents were asked to explain why they thought chimpanzees were not endangered, nearly a third of them cited the frequency of chimpanzees in popular media and as pets. These findings are consistent with the observation that over several years a viewer might see more individuals of a certain species (e.g. chimpanzees) on television than currently exist in the wild (Bousé, 2000). David Attenborough made a similar observation about the mismatch between what exists in the wild and what people see on television, “I may go into a forest and spend a month taking fleeting shots of monkeys or birds, which I then join together. As a result, people seeing the film are likely to imagine that the forest is pullulating with creatures, whereas in fact they are extremely difficult to find.” (Attenborough, 1961, p. 98).

Despite the mismatch between television and the real world, audiences generally accept wildlife documentaries at face value, believing they are genuine representations of wildlife behavior in representative habitats (Morrow, et al., 2017). This sets wildlife documentaries apart

from other genres such as dramas and comedies, for which people have long understood that television representations diverge substantially from reality (Bourdieu, 2001). Moreover, laypersons often see television programming that presents wild animals in anthropogenic situations as culturally questionable, but wildlife documentaries are typically viewed as culturally acceptable, even scholarly – especially if produced by respected institutions like the BBC (Chris, 2006). This acceptance has some desirable outcomes, such as when observers trust and retain accurate information about a species' conservation status, behavior, or biology. However, the typical wildlife film is produced by a for-profit company, intended for a broad audience, and is not made to deliver a specific message or conservation imperative (Bousé, 2000). The motivation to create entertaining films to increase profits often results in the misrepresentation of primate ecology and behavior (Morrow, et al., 2017). As such, the acceptance of these films may also lead to negative consequences. For example, the documentary *People of the Forest: The Chimps of Gombe* (1989) depicts an endangered primate as living in a pristine habitat free from the influence of humans and separated from anthropogenic impacts. Naïve audiences of wildlife documentary may inaccurately believe that the endangered chimpanzee is common with a healthy population size and access to habitat sufficient to sustain the wild population. This misperception is problematic considering that people's willingness to pay for conservation efforts is influenced by the knowledge that a species is endangered (Tisdell, et al., 2007).

Given the potential impact of wildlife representation on audience perceptions and conservation behaviors – especially the impact of representation in documentaries – it is important to analyze the content and messages being provided by primate documentary films, and the related impacts on audience perceptions. A central reason this is important can be seen in

Weston and colleagues' observation regarding the analogous representation of anthropologists in fiction films, "If these films shape and are shaped by popular understandings of anthropology, we should be more cognizant of that and join the discussion" (Weston, et al., 2015, p. 323). The same sentiment applies to primate documentaries. Research suggests these films impact public opinion of the primates studied by anthropologists, biologists, ecologists, and primatologists, so as experts we should be aware of these impacts and participate in shaping the conversation to ensure appropriate representation of primates.

An important step toward understanding the complex and interrelated issues of audience perception and documentary content is to examine the representation of primate diversity in documentary films. Findings from related research suggest that some primate species might be featured more prominently than other species. Clucas and colleagues (2008) looked at US conservation and nature magazines such as *Nature Conservancy* and *Wildlife Conservation*. The magazine covers featured mammals and birds more frequently than other taxa. Featured animals tended to be charismatic flagship species. Flagship species are species used in marketing by conservation organizations because of the species' appeal to a target audience, and such species are typically large-bodied (Leader-Williams & Dublin, 2000; Verissimo, et al., 2011). Featured mammals were typically endangered, whereas featured birds were of little conservation concern (Clucas, et al., 2008). Flagship species are most often discussed in the context of conservation, but it is reasonable to expect that the principles identified for selection of flagship species might also explain which primates are represented in documentaries.

Inequality in the representation of primate species was also expected due to issues of accessibility and ease of filming. Some primate species are difficult even for primatologists to find and study. For instance, Nekaris and colleagues (2008) cite the low encounter rates with five

slow loris species for a lagging scientific understanding of these species. Difficult-to-find species seem likely to be less represented in documentaries than prominent, easily located species, like urban populations of macaques. In addition, newly recognized species are less likely to have been included in documentaries than species that have been known for decades. For instance, we found no documentaries with appearances of lesula (*Cercopithecus lomamiensis*), a species formally identified only five years ago (Hart, et al., 2012).

To evaluate the relative representation of primate taxa in documentaries, we developed hypotheses based on flagship species and accessibility for filming. Our expectation that flagship species would be overrepresented suggests that: 1) apes would be more frequently included in documentaries than other primate taxa, 2) conservation status would play a role in representation such that disproportionate on-screen time would be provided for species classified as Critically Endangered (due to the appeal of rarity to audiences), and 3) large-bodied primates would have more on-screen time than smaller-bodied primates. Due to factors affecting the accessibility of species, such as the relative ease of locating and filming some species, we hypothesized that: 4) species of Least Concern would be overrepresented, and 5) diurnal and cathemeral primates will have more on-screen time than nocturnal primates. Documentaries have been shown to increase audience affinity for the animals they feature, and heighten viewers' concern for the survival of those species (Barbas, et al., 2009), so underrepresentation of certain taxa may put them at a disadvantage because the general public may be less concerned when unfamiliar primates face conservation threats. By identifying biased primate representation and gaps in coverage for some species, we hope to encourage scientists to engage with the film industry to enhance the accuracy and potential impact of documentaries as conservation outreach tools.

3.2 Method

To examine the relative representation of primate species in documentary films, we first compiled a list of nature documentaries featuring primates in the wild. The criteria for inclusion on the list were: 1) films released between 1900 and 2015; 2) documentary genre only, no fictional representations; 3) professional films only, no amateur productions (e.g. YouTube videos uploaded by tourists who filmed primates); and 4) a focus on free-ranging primates. Films that contained footage of captive primates were included in the analysis if at least 33% of the film's runtime showed wild primates. Films in which primates appeared only as a minor part of the fauna of a larger ecosystem (e.g. the *Wild Africa* series) were excluded because the focus was on the ecosystem generally rather than primates. Various formats were included in the list, including feature films, television episodes, and television specials. Documentaries were identified by searching the Internet and library catalogues, researching primate film reviews in scholarly journals, and from recommendations made by participants in a survey about the use of primate documentaries for teaching purposes (Riley Koenig, et al., 2018). The final list included 290 films. We went to great lengths in our attempts to obtain all documentaries in our scope: requesting copies via world-wide interlibrary loans; purchasing physical copies via eBay and Amazon; using streaming services such as Netflix, Hulu, and Amazon Prime; and even reaching out to filmmakers to request copies of their films. We were unable to acquire some documentaries for screening. This was particularly problematic for older, more obscure films. However, given the effort we put in to obtaining all documentaries in our scope, films that were not included in our analysis are unlikely to be widely viewed by modern audiences. This provides greater confidence in generalizing our findings to the documentaries that audiences are likely to encounter. Future research could focus on sourcing historical films from private

collections to increase the sample size of older films and enable analyses of historical trends in primate representation in documentaries. We were able to obtain 210 films, which the first author screened and reviewed (Riley Koenig & Sanz, 2017).

While screening the films, primates were identified at the species-level when possible. If uncertain about a primate species classification, we compared a screenshot against known specimens or asked other experts to ensure accurate classification. If a confident identification could not be made at the species level, the primate was classified at the genus level. In the rare case that a primate could not be identified at the genus level (e.g. in cases with grainy, distant footage), the primate was categorized as specifically as possible given the available information (e.g. “New World monkey” or “lemur”). It is possible that some species identifications were missed during video screening; in particular, obscure species that closely resemble well-known species may have been misclassified, making those species appear underrepresented. Every effort was made to avoid such mistakes.

Species representation was measured in two ways: the on-screen time, in seconds, that each species appeared summed across all documentary films; and the number of documentaries that featured each species. For on-screen time, each species appearing in each film was identified and their documentary-specific on-screen time was recorded; then for each species we added across all documentaries the documentary-specific on-screen times to determine the on-screen time for each species. Conceptually, on-screen time is the most precise measure of representation of primate species in documentaries, but the measure has some caveats. First, seconds are not independent. That is, if a species appeared in one second, it was more likely than any other species to appear in the next second. Also, it is strongly influenced by documentary length, such that species depicted in longer documentaries will have longer on-screen times. To balance

against these issues, as another way to examine species representation we also looked at how many documentaries featured each species. By our definition, each film had only one featured species – the species that had the most on-screen time in that film. This measure highlights the species that are the central focus of films, but it does not capture the brief appearances by many species in films such as BBC's *Cousins: First Primates* (2000), which shows 33 species.

Because we were interested in films focusing on primates in the wild, for these analyses we excluded films in which less than 33% of the runtime showed wild primates. We also excluded any films in which there was more footage of captive primates than of wild primates.

When examining taxa representation, the method was very similar to the analyses for species representation, with a key difference: we classified each species into a taxon and then summed on-screen time for each taxon. The taxon with the most on-screen time was identified as the featured taxon. So, when examining species representation, if chimpanzees had the highest amount of on-screen time of any individual species, chimpanzees would be the featured species. However, when examining taxa representation, if black-and-white colobus, olive baboons, and mandrills had on-screen time that summed to greater than that of the chimpanzees and there were no other African apes in the documentary, then African monkeys would be the featured taxon.

In addition to examining whether taxa were represented equally, we also examined whether they were represented in proportion to their constituent species. To evaluate this possibility, for each taxon we determined its number of primate species, which we used to predict the distribution of on-screen time (in seconds) across taxa. For example, currently 434 primate species are recognized by the International Union for Conservation of Nature (IUCN), and of these 4 are African Apes, so assuming proportional representation we expected that $4/434 = 0.92\%$ of on-screen time would show African Apes. The same process was used for evaluating

whether conservation status groups were represented proportionally and whether nocturnal and diurnal species were represented proportionally.

For species identifications and conservation status, we adhered to the species nomenclature and conservation status recognized by the IUCN as of 15 May 2017. For body mass analyses, we used male body mass because male body mass varies more widely than female body mass, making it more likely that we would detect any patterns present in the data. The majority of body mass data came from Smith and Jungers (1997), with additional data from several other sources (Fragaszy, et al., 2015; Grueter, et al., 2013; Lemos de Sá & Glander, 1993; Rasoloarison, et al., 2000; Rylands & Silva, 2008; Smith & Cheverud, 2002). To examine whether nocturnal primates were underrepresented compared to other primates, we followed the method of Bearder (1999) and classified each primate species as either nocturnal or not nocturnal; thus cathemeral primates and diurnal primates were analyzed as one group. We used Bearder (1999) as a guide for which primate species are nocturnal.

Examinations of body size, conservation status, and diurnality versus nocturnality are not independent of one another; for instance, larger-bodied primates are likely to be diurnal and endangered. We attempted to account for these relationships in our statistical analyses.

3.2.1 Statistical Analyses

The analyzed data were largely of two types: total number of seconds per group (e.g., the sum on-screen time per taxa) and the number of films featuring a species from each group. For analyses of on-screen time, we were interested in the count of the total number of seconds per species/taxa rather than mean amount of time per species/taxa, so we used chi-square analyses rather than mean comparisons. For follow-up planned comparisons, we used 2x2 chi-square analyses in which the focal taxon and non-focal taxa were treated as two levels of one variable,

and expected versus observed counts were the other variable. For example, the planned comparison to see if African apes were depicted for more seconds than predicted by their relative proportion of species used a chi-square in which African apes were one group and all other species were another group, with the number of expected seconds per group determined by calculating how many of the total observed seconds would depict each taxon based on the percentage of species in each group (i.e., 0.92% of all seconds for African Apes and 99.08% for the non-focal group). Planned comparisons used family-wise Bonferroni corrected alphas. When examining films featuring species, we were also interested in counts rather than means, so we used the same analysis strategy for them as for on-screen time.

3.3 Results

Of 434 extant primate species currently recognized by the IUCN, our sample of documentaries included 137 species (31.6%) and featured 37 species (8.5%). For the 137 included species, on-screen time was right skewed with an overall mean of 1,861.44 seconds, $SD = 5,543.70$.

Variances differed across taxa, $F(5, 131) = 7.91, p < .001$. On-screen times ranged from 1 second for agile mangabeys (*Cercocebus agilis*) to 45,827 seconds for rhesus macaques (*Macaca mulatta*). On-screen times for two species were extreme outliers within their taxa (Figure 3.1).

They were each depicted in multi-season television shows: ring-tailed lemurs (*Lemur catta*) in 20 episodes of *Lemur Street* and rhesus macaques in 39 episodes of *Monkey Thieves*. On-screen time for the 15 species with the most on-screen time accounted for 77.3% of all the on-screen time for all 137 included primate species. A small number of species were featured in many more films than the other species. Table 3.1 summarizes the characteristics of the 15 species that had the most on-screen time.

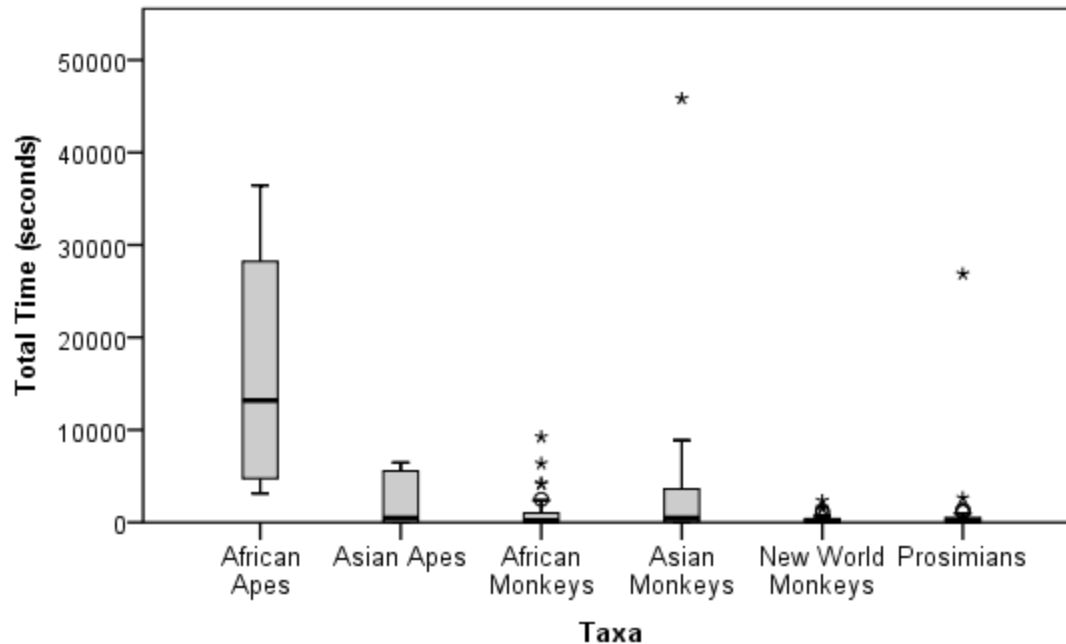


FIGURE 3.1 Box-and-whisker plot of on-screen time for species, organized within taxa.

TABLE 3.1 Characteristics of the 15 species with the most on-screen time in documentaries featuring wild primates. For Conservation Status, CR = Critically Endangered, EN = Endangered, LC = Least Concern. There were no Vulnerable, Near Threatened, or Data Deficient species in the top 15. For films featured, episodes in television series are categorized here such that each episode counts as a film.

Rank	Species	Taxa	Conser- vation Status	Noc- turnal?	Mean Male Weight (kg)	Total Time On-screen (mins)	Films Featured
1	<i>Macaca mulatta</i>	Asian monkey	LC	No	11.0	763.8	44
2	<i>Pan troglodytes</i>	African ape	EN	No	49.6	607.4	24
3	<i>Lemur catta</i>	Prosimian	EN	No	2.2	448.0	24
4	<i>Gorilla beringei</i>	African ape	CR	No	162.5	333.3	12
5	<i>Papio ursinus</i>	African monkey	LC	No	29.8	154.0	7
6	<i>Macaca sinica</i>	Asian monkey	EN	No	5.7	148.1	5
7	<i>Macaca fasciata</i>	Asian monkey	LC	No	11.0	147.8	4
8	<i>Pongo pygmaeus</i>	Asian ape	CR	No	78.5	107.8	1
9	<i>Papio anubis</i>	African monkey	LC	No	25.1	106.3	2
10	<i>Gorilla gorilla</i>	African ape	CR	No	172.8	106.1	2
11	<i>Nasalis larvatus</i>	Asian monkey	EN	No	20.4	92.8	4
12	<i>Pongo abelii</i>	Asian ape	CR	No	77.9	92.4	4
13	<i>Macaca fascicularis</i>	Asian monkey	LC	No	5.4	75.0	2
14	<i>Chlorocebus aethiops</i>	African monkey	LC	No	4.3	70.4	3
15	<i>Papio cynocephalus</i>	African monkey	LC	No	21.8	69.3	3

3.3.1 Taxa

Analyses examined documentary representation of six primate taxa: African Apes, Asian Apes, African Monkeys, Asian Monkeys, New World Monkeys, and Prosimians. Analysis of the sum of the on-screen times of each taxon's constituent species indicated that taxa were not equally represented (in seconds), $\chi^2(5, N = 257867) = 95,758.11, p < .001$. Observed on-screen times were also not proportional to the number of species in each taxon, $\chi^2(5, N = 257867) = 1,839,153.55, p < .001$. Planned comparisons evaluated whether the observed on-screen time for each taxon (vs. all other taxa) differed from expected based on the proportion of species within that taxon (vs. all other taxa). All comparisons of observed-vs-expected on-screen time were significant (Bonferroni corrected alpha = .008). African Apes, Asian Apes, and Asian Monkeys were overrepresented; African Monkeys, New World Monkeys and Prosimians were underrepresented (Figure 3.2).

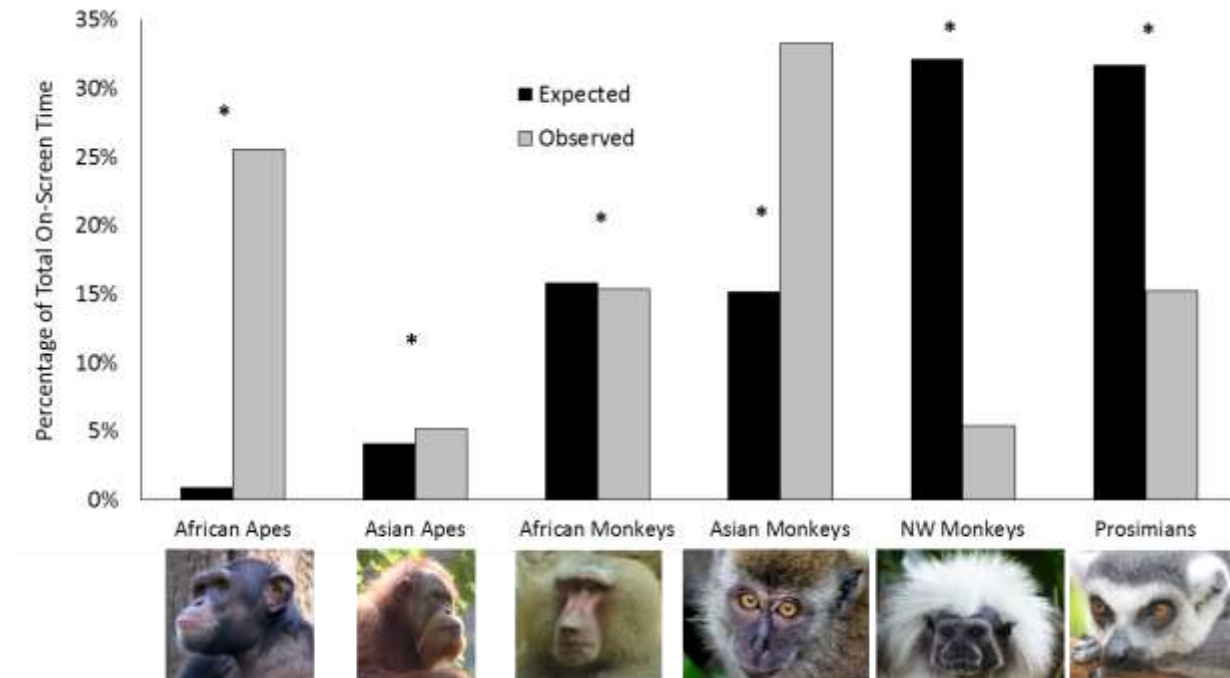


FIGURE 3.2 Distribution of on-screen time for primate taxa appearing in documentaries. Expected percentages were based on proportion of all species that were in each taxon. *Note:* * indicates $p < .008$; alpha corrected for multiple comparisons

Taxa representation was also examined by looking at the number of films that featured each species. Comparing with expected values assuming proportional representation of taxa based on their number of constituent species (see above), when counting episodes as individual documentaries, observed proportions diverged from expectations, $\chi^2(5, N = 170) = 1052.86, p < .001$. African Apes and Asian Monkeys were overrepresented; Asian Apes, New World Monkeys, and Prosimians were underrepresented; African Monkeys did not deviate significantly from expectation. When episodes were collapsed into a single “documentary,” Asian Apes and Asian Monkeys did not deviate significantly from expectation; all other results remained the same.

3.3.2 Conservation Status

These analyses considered documentary representation with respect to the six conservation statuses represented among extant primates: Critically Endangered, Endangered, Vulnerable, Near Threatened, Least Concern, and Data Deficient. Species of various conservation statuses were unequal in their on-screen time, $\chi^2(5, N = 255,212) = 265,396.62, p < .001$. Observed on-screen times were also not proportional based on the number of species assigned each conservation status, $\chi^2(5, N = 255,212) = 79,940.49, p < .001$. All planned comparisons (corrected alpha = .008) were significant. Critically Endangered, Endangered, and Least Concern species were overrepresented; Vulnerable, Near Threatened, and Data Deficient species were underrepresented (Figure 3.3).

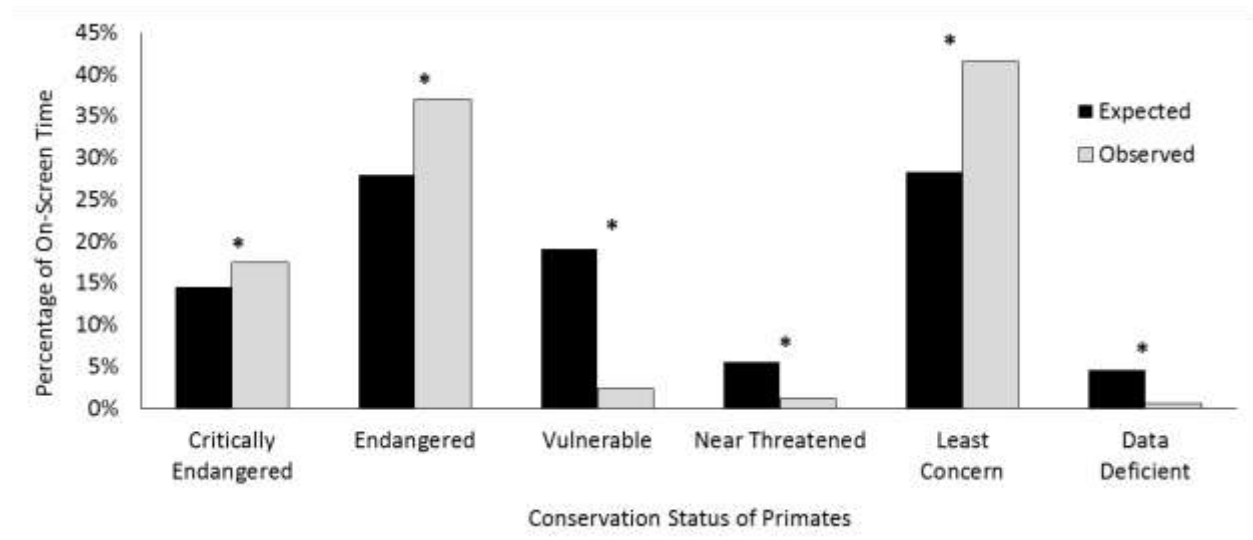


FIGURE 3.3 Distribution of on-screen time for primates appearing in documentaries, by conservation status

Note: * indicates $p < .008$; alpha corrected for multiple comparisons

Proportional representation by conservation status was also examined by looking at how many films featured species of each status. Observed values diverged from expectations when episodes were counted as individual documentaries, $\chi^2(5, N = 169) = 63.96, p < .001$. Planned comparisons showed that more films featured Endangered and Least Concern species than expected; fewer films featured Vulnerable and Near Threatened species than expected; and the number of films featuring Critically Endangered species did not significantly differ from expected.

3.3.3 Body Size

We correlated the body size of species with their on-screen time and with the number of documentaries featuring each species. Larger primate species had more on-screen time, Pearson r ($N = 133$) = .36, $p < .001$, and Spearman r ($N = 133$) = .42, $p < .001$ (Figure 3.4). Most primate species (126/133 = 94.74%) weigh under 50 kilograms and had fewer than 10,000 seconds of time depicted, so we excluded species outside these boundaries to see if the same pattern held

when omitting especially influential species. Doing so did not change the results, Pearson r ($N = 126$) = .48, $p < .001$, and Spearman r ($N = 126$) = .36, $p < .001$.

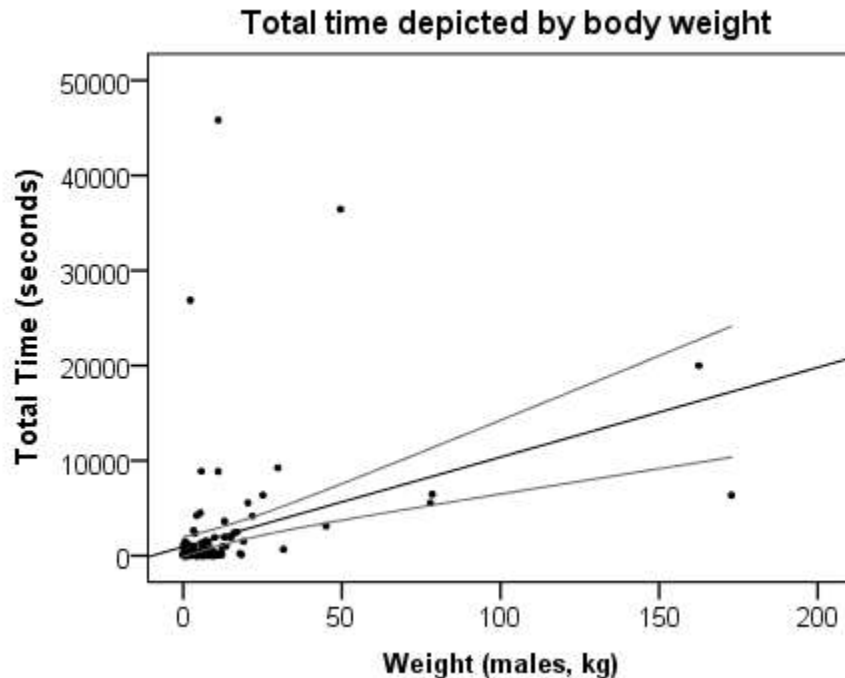


FIGURE 3.4 Scatterplot depicting primate body size and on-screen time with best fit line and 95% confidence intervals.

When considering species that were included in a documentary, even if they were not featured in any, correlating body size with the number of documentaries that feature each species resulted in almost identical findings, Pearson r ($N = 134$) = .24, $p = .006$, and Spearman r ($N = 134$) = .41, $p < .001$. These correlations were not due to a few outliers, as they held when excluding seven species with either bodyweight over 50 kilograms or that were featured in 10 or more documentaries, Pearson r ($N = 127$) = .46, $p < .001$, Spearman r ($N = 127$) = .33, $p < .001$. In summary, larger primate species are featured in more documentaries.

3.3.4 Diurnality versus Nocturnality

Of the species that were depicted in documentaries, nocturnal primates had on-screen times ranging from 18 to 1188 seconds, with 5 of 14 (35.7%) nocturnal species having more than 2 minutes of on-screen time. Non-nocturnal primates, by contrast, ranged from 1 to 45827 seconds of on-screen time, with 73 of 124 (58.9%) species depicted for more than two minutes. For the 14 nocturnal species depicted in documentaries, 12 were prosimians and the other two were New World monkeys (*Aotus nigriceps* and *Aotus azarae*). Documentaries featured only two nocturnal species (*Tarsius tarsier* and *Tarsius syrichta*).

The 14 nocturnal species had a total of 3263 seconds on screen, which was significantly less than the 251,503 seconds of on screen time for the 124 non-nocturnal species, $\chi^2(1, N = 255,017) = 21,487.03, p < .001$. Nocturnal species also were underrepresented assuming on-screen time in proportion to the number of nocturnal species compared to the number of non-nocturnal species, $\chi^2(1, N = 254,766) = 21,944.61, p < .001$. A similar test found that fewer documentaries featured the nocturnal species than the non-nocturnal species, $\chi^2(1, N = 169) = 14.88, p < .001$.

3.3.5 Predicting On-screen Time Based on Species Characteristics

When controlling for taxa, conservation status, and nocturnality, the only significant predictor of on-screen time is weight, with greater weight predicting longer on-screen time (Table 3.2). Note that the effect of weight was not due to the large size of African apes, because an analysis excluding them resulted in a significant effect of weight that was of similar size. Also, on-screen time was natural log transformed after preliminary analysis showed that the transformation eliminated strong skew in the residuals. Positive skew for weight was also removed via natural log transformation. This analysis examined only primates identified at the species level ($N = 131$).

TABLE 3.2 Results of multiple regression predicting species on-screen time (natural log transformed) with species characteristics.

Characteristic	b	SE _b	beta	p	VIF
Intercept	4.798	0.537		.000	
⁺ African Apes	1.709	1.220	.14	.164	1.61
⁺ Asian Apes	-0.565	0.944	-.06	.551	1.42
⁺ African Monkeys	-1.363	0.687	-.29	.049	3.43
⁺ Asian Monkeys	-0.154	0.700	-.03	.826	2.41
⁺ New World Monkeys	-0.982	0.601	-.20	.105	2.53
[^] Weight	0.576	0.178	.43	.002	2.90
[*] Conservation status	0.141	0.142	.10	.324	1.71
⁺ Nocturnal	0.450	0.763	.06	.556	1.90

⁺dummy variable

For taxa, prosimians is the reference group (intercept)

[^]weight is of the male in kilograms, natural log transformed

^{*}Conservation status was scored: 1 = critically endangered, 2 = endangered, 3 = vulnerable, 4 = near threatened, 5 = least concern

3.4 Discussion

Representation of the prevalence of various primate species in documentaries diverges substantially from their actual distribution in the wild, and underrepresents the full scope of primate biodiversity. In this regard, data were consistent with our hypotheses. Flagship species tended to be overrepresented. African apes were represented disproportionately to their number of species; New World monkeys and prosimians were underrepresented. Endangered species were overrepresented whereas Vulnerable and Near Threatened species were underrepresented. Multiple regression found that larger body size was the strongest predictor of on-screen time, even when excluding African apes from analysis. The findings also supported hypotheses regarding species accessibility factors: both non-nocturnal and Least Concern species were especially likely to be depicted. Our findings have important implications for the use of documentaries as teaching tools and for lay perception of primate biodiversity and wild primate population health.

3.4.1 Taxa

On-screen time and the number of documentaries featuring species of each taxon were unequally distributed; they were also disproportionate given the number of species in each taxon. We expected that apes would be featured more frequently than other taxa, and there was mixed support for this hypothesis – African apes were certainly overrepresented but Asian apes were not. The pattern of results differed slightly depending on whether we considered on-screen time or the number of films featuring each taxon, but results consistently showed that African apes were overrepresented whereas New World monkeys and prosimians were underrepresented. Indeed, three of the four African ape species (all but *Pan paniscus*) were among the top 15 represented species, which included only one prosimian species (*Lemur catta*) and no New World monkeys.

Two species were featured in long-running television shows and were outliers with exceptional representation. Their high values for on-screen time set them apart from all other primate species other than the African apes (see Table 3.1). The television series also accounted for most of these two species on-screen time. Specifically, ring-tailed lemurs were featured in all 20 episodes of *Lemur Street*, which accounted for 76.1% of on-screen time for that species. Rhesus macaques were featured in all 39 episodes of *Monkey Thieves*, which accounted for 82.8% of the total time they appeared in primate films. The episodes of *Monkey Thieves* are the reason that Asian monkeys were an overrepresented taxon regarding number of featuring documentaries because Asian monkeys were no longer overrepresented when episodes were collapsed into a single documentary. Prosimians were underrepresented even when *Lemur Street* episodes counted as 20 documentaries.

3.4.2 Conservation Status

As with the analysis examining taxa representation, on-screen time and the number of documentaries featuring primates at each conservation status group were unequally distributed and disproportionate given the number of species currently assigned each status. The pattern of findings was largely consistent with our hypotheses, although the results differed slightly depending on whether we considered on-screen time or the number of documentaries featuring species at each conservation status. In all sets of analyses, Endangered and Least Concern species were overrepresented and Vulnerable and Near Threatened species were underrepresented. When considering on-screen time, Critically Endangered species were overrepresented (consistent with our hypothesis), but they did not differ from expected values when considering the number of documentaries featuring them. One possible explanation is that Critically Endangered species are often included in documentaries but are not featured, perhaps due to difficulties with getting sufficient footage of them. For instance, in *Monkey Planet: Master Minds* (2014), long-tailed macaques (*Macaca fascicularis*, a species of Least Concern) are the featured species; Bornean orangutans (*Pongo pygmaeus*, a Critically Endangered species) also appear in the film, but their on-screen time is less than half of the macaques'. By comparison, endangered species may be overrepresented because their rarity enhances audience appeal and they are more accessible to film crews than Critically Endangered species.

The overrepresentation in wildlife documentaries of Endangered (and, in some cases, Critically Endangered) species highlights the importance of communicating accurately with audiences about the health of wild populations and their long-term viability. This can be achieved in part by showing animals as they truly exist in their habitats and including elements usually excluded from traditional blue-chip wildlife films, such as signs of habitat disturbance and human-wildlife conflict (Bousé, 2000). Audiences would likely benefit from collaboration

between scientists and filmmakers, including increased participation in the Science & Entertainment Exchange, a program of the National Academy of Sciences that pairs scientists and industry professionals such as filmmakers to increase the scientific accuracy of popular media (Merchant, 2013).

3.4.3 Body size

As hypothesized, larger-bodied “flagship” primates were disproportionately featured in documentaries. Indeed, body size was the best predictor of on-screen time. The latter effect even held when excluding from the analyses the largest and arguably the most charismatic primates, African apes. Clucas and colleagues (2008) raised the concern that disproportionate representation of some species could lead to a public that is informed about only the subset of conservation issues facing the overrepresented species. The results of the current study suggest that disproportionate representation exists in documentaries that is similar to previous findings for conservation outreach materials, and in both cases larger-bodied mammals were overrepresented. If Clucas and colleagues are correct, overrepresentation of large-bodied primates in documentaries could lead to familiarity with conservation challenges facing large-bodied primates (e.g. greater hunting pressure) but little awareness of the challenges facing smaller primates (e.g. greater susceptibility to food scarcity) (Cowlishaw & Dunbar, 2000). However, many primate documentaries do not discuss conservation issues at all – in 210 videos we screened, conservation issues were mentioned in 117 (55.7%). When conservation issues were addressed, they were often mentioned in passing (e.g. that a chimpanzee’s hand had been maimed by a poacher’s snare). It was rare for a film to explicitly discuss conservation issues (e.g. saying that habitat destruction is driving a species closer to extinction), and even more rare for narrators to discuss actions viewers could take to address conservation issues (e.g. avoiding palm

oil in consumer goods). Thus, the greater coverage of larger primate species may not increase understanding of the conservation challenges these animals face – indeed, documentary presentation of pristine habitats might exacerbate layperson misunderstanding of conservation issues. There is an opportunity to use documentaries to increase public awareness of key conservation issues for a broad range of taxa. Increasing awareness would best be achieved through the close collaboration of scientists and filmmakers. When possible, scientists should encourage filmmakers to discuss relevant conservation issues for each species, and to include a broad selection of primate species. Indeed, previous research suggests that the inclusion of a variety of primate species may increase the popularity of a film. In a survey of college-level anthropology instructors, the most commonly shown films covered a wide array of primate species rather than focusing on a single species (Riley Koenig, et al., 2018).

3.4.4 Nocturnal and Diurnal Primates

As hypothesized, nocturnal primates were underrepresented compared to diurnal and cathemeral primates. This is intuitive for several reasons. First, filming is more difficult in the dark, especially given nocturnal primates' sensitivity to the bright lights that would be optimal for filming at night. Second, nocturnal primates can be more difficult to locate and thus to film because they are active at when it is hard to see and they are more likely to live alone or in smaller groups than diurnal or cathemeral primates (Fleagle, 1999). Finally, nocturnal primates tend to be smaller-bodied than their diurnal and cathemeral counterparts, and our research has shown that larger-bodied primates are featured more often and have longer on-screen times than smaller primates. It is unclear whether small, cryptic, solitary primates are passed over for documentaries due to difficulties in tracking and filming them, or whether larger, more visible,

gregarious primates are more sought after because their social lives are more interesting to general audiences.

3.4.5 Broader Implications

This research found that only about a third of primate species are portrayed in documentaries, and the species that are portrayed tend to be large flagship species and easily filmed species. In short, primate documentary film portrays only a fraction of the full scope of primate biodiversity, and the portrayed species are an unrepresentative, biased sample. Primate documentaries are an important source of information and exposure for people who will otherwise not encounter primates in the wild (Riley Koenig, et al., 2018) and they are often touted as valuable tools for inspiring conservation on behalf of the species they feature (Macdonald, 2013; Palmer, 2010, 2015). As such, communicating about only a subset of primate species is a missed opportunity for representing primate biodiversity to the general public. In addition to providing an incomplete picture of primate biodiversity, individual species that are excluded from primate documentaries may be at a disadvantage because the general public may be less concerned when unfamiliar primates face conservation threats. Previous research suggests that high-quality films that introduce the public to previously unfamiliar primate species in the context of their habitats, conservation challenges, and conservation statuses will result in increased affinity for these primates and heightened concern about their long-term survival (Schroepfer, et al., 2011; Tisdell, et al., 2007).

One way to increase the coverage of diverse primate species and to include more explicit discussion of conservation issues in documentary film is to foster collaborations between primatologists and filmmakers. Many primatologists already consult on films, but often their input is requested too late in the process for substantial revisions to be made (Goodall, 2015).

Some primatologists work with film crews who visit their field sites to get footage of primates. In their current form, these collaborations frequently involve primatologists aiding filmmakers as they get the footage they came to shoot, which often involves a pre-determined list of shots (e.g. chimpanzees nut-cracking). Primatologists associated with film shoots could promote biodiversity and conservation by suggesting footage of other primates sympatric with the species that the crews are filming, and by discussing specific conservation challenges that the primates face. Even more effective would be involving primatologists earlier in the process, before filming has begun. Pairing primatologists and filmmakers early on, in the development stage rather than in the filming or editing stage, is one possible way for primatologists to encourage the presentation of primate biodiversity in film, in addition to ensuring that primates are presented in a manner that is responsible and scientifically accurate. *The Funkiest Monkeys* (2014) illustrates a successful partnership between primatologists (Benedictus Giyarto and others at the Macaca Nigra Project) and filmmakers (Colin Stafford-Johnson and his team). Included in the *Nature* episode was a screening of a film that Stafford-Johnson produced for the local community, in the local language, featuring the black crested macaques with which that community regularly interfaces. *The Funkiest Monkeys* is an exceptional example of how conservation, education, and entertainment can be synthesized through film.

Some existing initiatives may encourage greater collaboration between scientists and filmmakers in the future. For example, the National Geographic's Explorers grant application now requires applicants to describe how they will use technology and storytelling to promote conservation (National Geographic, 2017). Teaming up with documentary filmmakers is one possible way to address this requirement and to produce high-quality film with a solid foundation in science. The National Academy of Sciences' Science & Entertainment Exchange currently

focuses on increasing the scientific accuracy of fiction films by pairing scientists with film industry professionals, but an obvious extension of the program is to use the same method for documentary films. Filmmakers for Conservation is a non-profit organization devoted to making conservation-oriented films. Their Great Apes Film Initiative is dedicated to making films that inspire people to conserve and protect the great apes. Our assessment of primate representation in documentaries provides insights into how to increase the accuracy and potential impact of such films.

Additional research is planned to explore whether species differ in how documentary films portray their behavior (Riley Koenig, et al., in preparation). Also, the implications of our research are mostly relevant for professionally made films. Future research should evaluate less traditional types of media, such as amateur videos uploaded to sites like YouTube and Vimeo. Internet videos are widely used for educational purposes (Riley Koenig, et al., 2018) and for personal enjoyment, and such videos can have substantial impacts on viewer perceptions of endangered primates (Nekaris, et al., 2013). The content of Internet videos and their impacts on viewers is an area in need of further evaluation.

3.5 Conclusion

A large-scale analysis of documentaries featuring wild primates showed that primate species are not equally represented. Large-bodied, diurnal flagship species have more on-screen time.

African apes are frequently featured and have longer on-screen times than species in other taxa. Endangered species and those assessed as Least Concern are overrepresented compared to other conservation statuses. These patterns have important implications because many members of viewing audiences may only ever encounter primates in captivity and on television. In particular, students and laypersons might not understand the actual ecological situation of primates and

related conservation issues. These findings suggest that primate documentaries at present are an area where there are missed opportunities for promoting the broad swath of primate biodiversity to the general public. This situation could be rectified through closer collaboration between scientists and filmmakers via initiatives such as Filmmakers for Conservation and the National Academy of Sciences' Science & Entertainment Exchange.

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Chapter 4: Portrayals of Wild Primates in Documentary Films: Reason for Concern?

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4.1 Introduction

A recent survey found that 96% of college anthropology instructor respondents use documentary films about wild primates as teaching tools in their courses (Riley Koenig, Koenig, & Sanz, 2018), but no systematic evaluation of the content of these films is available. Critics have been concerned about how popular media depicts wildlife, including primates (e.g. Bousé, 2000; Mitman, 1999; Palmer, 2010). Criticism has come from various sources, including academics (Bousé, 2000; Mitman, 1999), animal rights activists (Carrier, 1996), and even those involved in the wildlife film industry (Attenborough, 1961; Boswall, 1962; Palmer, 2010, 2015). These critics have condemned the use of misleading techniques that they deem questionable.

Misleading techniques include staging scenes or creating “arrangements” (e.g., releasing a prey animal near a potential predator) (Attenborough, 1961; Carrier, 1996), misleading use of slow motion (Boswall, 1986), using footage of captive animals as if depicting animals in the wild (Attenborough, 1961), splicing together unrelated footage to create a plot or story, altering film footage in ways that distort reality (e.g. by erasing signs of humans to create an image of pristine nature) (Palmer, 2015), or creating “composite characters” by combining characteristics of several animals (Bousé, 2000). These practices have led some to doubt whether wildlife films should even be classified as documentaries (Bousé, 1998).

Indeed, documentary subgenres vary widely, ranging from traditional wildlife documentaries like those from the *Nature* series to more sensationalized “docudramas” like

Monkey Thieves. Our survey of college anthropology instructors found that in their courses they used documentaries ranging from sensational to scientific (Riley Koenig et al., 2018). To encompass this diversity, for this research we used a liberal definition of documentary. We considered a film a primate documentary⁶ if it was classified as a documentary by the production company, and/or by a publicly available resource like IMDb or WildFilmHistory. We used this criterion because the classification of films as documentaries by these sources likely influences what the public perceives to be a documentary.

Audiences tend to trust that documentary films and other non-fiction television shows accurately represent science (e.g. Morrow et al., 2017; Wexler, 2008). Some filmmakers agree – in theory – that documentaries should be accurate: Boswall’s first three rules of wildlife filmmaking are do not harm the animals, do not deceive the audience, and be open about how the film was made (Boswall, 1998). Scholars have similarly argued that misleading techniques are a betrayal of the filmmakers’ ethical responsibility to audiences (Palmer, 2010, 2011, 2015). Nevertheless, despite the best intentions of some filmmakers, documentaries are often misleading. Misleading documentaries can be especially problematic because outright deception can be difficult to detect, in part because filmmakers and editors strive to create a seamless viewing experience. For example, techniques like using several animals to depict one character (e.g. in DisneyNature’s *Chimpanzee*, von Leszczynski, 2013) can easily go unnoticed. Similarly, footage of captive animals is sometimes used in wildlife films. When carefully presented, audiences have no reason to suspect that the animals they are seeing are in a zoo or studio rather than in their natural habitat.

⁶ Feature films, episodes from television series, and television specials are all included in the documentary genre. We refer to these various forms collectively as “documentaries” or “films.”

When misleading techniques are uncovered, audiences often express resentment. The BBC received complaints after viewers discovered that footage in *Frozen Planet* showing a polar bear giving birth had actually been filmed in a zoo and not in the wild as the audience was led to believe. Critics claimed that the footage should have been accompanied by a disclaimer or an explanation, and that the deception was a violation of the BBC's own guidelines (Mendick & Malnick, 2011). Although such practices sometimes engender outrage when detected by audiences, in fact these practices sometimes help to mitigate negative effects on wildlife populations, and therefore represent ethical dilemmas. For example, a filmmaker trying to obtain footage of a wild polar bear giving birth would likely generate significant stress for the animal and danger for the film crew. Nature documentaries may also misrepresent animal behavior. As Derek Bousé (2000) pointed out, a true-to-life representation of the lives of lions would show them resting for more than 80% of the film, and such a portrayal would be boring for audiences and horrible for profits. Many misleading edits such as these likely go undetected by audiences.

It is likely that documentaries have strong effects on audience perceptions of wild primates. Yet, researchers have not directly evaluated the impact of documentaries on audience perception of wild primates. A closely related line of research has shown that non-documentary depictions of primates in popular media influence observer perceptions of wild primates. This is troubling, given that popular media portrayals of primates impact people's understanding of these species.

The inclusion of primate species in popular media can lead people to conclude that those primates are not endangered (Ross et al., 2008). For example, Schroepfer and colleagues (2011) found that participants were less likely to accurately categorize chimpanzees as endangered and more likely to support individual rights to own chimpanzees as pets after viewing commercials

depicting chimpanzees in anthropomorphic situations compared to participants who watched footage of wild chimpanzees in their natural habitats or a chimpanzee conservation commercial. Similarly, Ross, Vreeman, and Lonsdorf (2011) found that people who viewed a photograph of a chimpanzee with a human or in an anthropomorphic context were more likely to believe that wild chimpanzee populations were healthy and stable than people who viewed a photo of a chimpanzee without a human or in a non-anthropomorphic context. The presence of a human in the photograph also increased the likelihood that participants would report that chimpanzees are appropriate pets. Similarly, Leighty and colleagues (2015) examined perceptions of New World monkeys and lemurs and found that people who viewed images of primates in an anthropomorphic context with a human were no more likely to believe the primates were endangered than people who viewed images of primates in a natural context without humans, but viewing a primate in an anthropomorphic context with a human did increase a desire to own the primate as a pet. The evidence that popular media can influence audiences in ways that could impact their conservation-related understanding of primate species suggests even greater impact for documentaries.

In addition to inaccuracies in documentaries and misrepresentation in popular media, another potential bias in audience perception of wild primates could result from differential representation of primates in documentaries. One way this occurs is via representation at the species level. That is, selective depiction of some species and not others could result in audiences misunderstanding primate biodiversity. In a sample of 210 documentary films about wild primates, only 137 species (31.6% of extant primate species) were shown on screen. New World monkeys and prosimians were disproportionately underrepresented (Riley Koenig, Koenig, & Sanz, under review). The portrayal of a relatively narrow slice of primate biodiversity, and the

underrepresentation of certain taxa, could lead audiences to underestimate the full scope of primate biodiversity. Biased representation could also occur within species. This could occur either for behaviors (i.e., activity budgets) or which age classes are depicted. Audiences seem unlikely to be aware of biases in these forms of representation.

In summary, audiences and experts have raised concerns about the accuracy and integrity of wildlife films (e.g. Bousé, 2000; Mitman, 1999). In response to these concerns, our goal was to systematically evaluate the accuracy of depictions of prominent wild primate species in documentaries, from a primatological perspective. In this research, we examined: 1) whether depictions of wild primate behavior in documentary films are consistent with species-specific patterns of behavior reported in the primary literature; 2) whether age-sex distributions of primates in documentary films were consistent with age-sex distributions reported in the literature; and 3) whether inaccuracies and misleading techniques were detectable in primate documentaries. We focused on the four species most commonly depicted in primate documentary films – rhesus macaques (*Macaca mulatta*), chimpanzees (*Pan troglodytes*), ring-tailed lemurs (*Lemur catta*), and mountain gorillas (*Gorilla beringei*) (Riley Koenig et al., under review). Our results document important misrepresentations of primates in documentary films. We propose that primatologists are uniquely situated to help ensure the accurate portrayal of primates in future documentary films, which could impact public understanding of primates and related conservation behaviors.

4.2 Method

For inclusion in the analyses, films had to meet several criteria. First, they had to be non-fiction, documentary-style films released between 1900 and 2015. Second, they had to focus on free-ranging primates. Captive primates could appear in some portion of the film, but the primary

focus had to be free-ranging primates. Similarly, films in which primates appeared only as a minor part of the fauna of a larger ecosystem (e.g., the *Planet Earth* series) were excluded because the focus was on the ecosystem generally and not on the primates specifically. Finally, films had to be produced professionally by either film studios or primatology experts; we excluded amateur wildlife films (e.g. Internet videos uploaded by people who filmed primates). Films were found by searching the Internet and library catalogues, researching primate film reviews in scholarly journals, and requesting recommendations from participants in a survey of anthropology instructors about their use of primate documentaries in the classroom (Riley Koenig et al., 2018). We obtained and screened 210 films, which were coded for behavior, accuracy, and population characteristics (and reviewed for usefulness as a teaching tool in anthropology courses, see Riley Koenig & Sanz, 2017).

CRK screened each film and continuously coded behavior to create comprehensive activity budgets for depicted wild primates. Whenever a free-ranging primate appeared on screen, CRK noted the time, the species, and behavior of the featured primate. The featured behavior was defined as the behavior that was being showcased – either it was occurring center screen, and/or the narrator or host was commenting on the behavior. Featured behaviors were scored as one of 14 categories (agonism, feeding – anthropogenic source, feeding – natural source, grooming, human-primate interaction, multi-species interaction, mating, physical display, playing, resting, tool use, traveling, vocal signaling, and miscellaneous). Behaviors categorized as miscellaneous were described in text in the datasheets. The duration of each featured behavior was scored. Data was pooled across films to create a single, aggregate activity budget for each species. We summed time across films rather than averaging percentages of activity budgets so that shorter films would not disproportionately affect activity budgets. Activity budgets were

contrasted with species-specific activity budgets from existing literature to make comparisons about how activity budgets are portrayed in documentaries versus how animals actually spend their time in wild settings.

In addition to behavioral sampling, scan samples were conducted at 3-minute intervals. For each scan sample, the species, age class (infant, juvenile, adolescent, adult, undetermined), and sex (male, female, undetermined) of each free-ranging primate visible on the screen was recorded. These data were compared with reports of species-specific population structure from the primary literature.

Data on inaccuracies were collected *ad libitum*. While screening documentaries, any errors were noted. For our purposes, we defined inaccuracies broadly, to include anything from hyperbole to using an incorrect scientific name for a primate. We categorized each inaccuracy into one of six categories, which are summarized in Table 4.1.

TABLE 4.1 Categories, definition, and examples of detected inaccuracies.

Category	Definition	Example
Hyperbole	Exaggeration of a situation for dramatic effect	"All the splinter group have eaten since they've been back in the city is one measly portion of rice." (<i>Monkey Thieves</i> , ep. 17)
Projection of intention or emotional state	Applying internal states or intentions to primates without evidence or support	"What she [a female lemur] wants more than anything is a baby of her own." (<i>Lemur Street</i> , ep. 15)
Incorrect term for animal, place, or behavior	Mislabeling species, behaviors, etc. Includes references to monkeys as apes and vice versa	Scientific name for chimpanzees is given as " <i>Simia troglodytes</i> ." (<i>Xploration Animal Science: All About Primates</i>)
Inaccurate science	A statement that contradicts scientific knowledge	"Urban macaques have no idea what's edible." (<i>Monkey Thieves</i> , ep. 10)
Mismatch between narration and footage	The narrator's interpretation of events does not match what is being shown on the screen	Narrator presents a young chimpanzee's age progression as linear, but the age of the chimpanzee on screen changes - sometimes from an older chimpanzee to a younger one. (<i>Chimpanzee</i>)

Mischaracterization of habitat, ecology, or behavior	A misrepresentation of reality that is not covered by other categories	"In Tanzania chimpanzees and their habitat are protected by law. In some other countries in Africa chimpanzees are killed, trapped, or starve as forests are destroyed." (<i>People of the Forest: The Chimps of Gombe</i>)
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Behavioral data was collected on a total of 137 primate species (see Table D.1 in Appendix D). The total screen time for each species ranged widely, from only one second for the agile mangabey (*Cercocebus agilis*) to more than 12 hours for rhesus macaques. We used data from Riley Koenig and colleagues (under review) to determine which species' activity budgets to examine in detail. Selected footage for short screen times seem likely to depict unrepresentative samples of behavior, so detailed analyses were conducted only for species with more than five hours (300 minutes) of screen time – namely, rhesus macaques (764 minutes; 47 films), chimpanzees (607 minutes; 41 films), ring-tailed lemurs (448 minutes; 35 films), and mountain gorillas (333 minutes; 29 films). Together these four species accounted for more than half of the total screen time of primates in our sample of documentaries. There was a natural break in the distribution following mountain gorillas, as the species with the next highest screen time was the chacma baboon (*Papio ursinus*, 154 minutes) followed by the toque macaque (*Macaca sinica*, 148 minutes).

4.2.1 Statistical Analyses

Comparisons of activity budgets can be problematic because the activity budgets of a single species can differ across location, habitat type, season, and age/sex class (e.g. Chopra, Seth, & Seth, 1992; Ellwanger & Gould, 2011). Further complicating matters, researchers typically use different classification methods when collecting behavioral data (Teleki, 1981), making direct comparison difficult. For example, some researchers separately classify feeding and foraging (Simmen et al., 2010) whereas others classify both behaviors as feeding (Rasamimanana et al.,

2006; Sussman, 1999). We used two strategies to mitigate the difficulties of making activity budget comparisons. First, to increase the number of samples from the literature, we made statistical comparisons only across behavioral classes commonly reported in the literature: feeding, resting, and traveling. We collapsed into an “other” category all other behaviors (e.g. playing, mating, grooming).

Second, we used Crawford and Howell’s (1998) method to determine the probability that activity budgets in documentary film were randomly selected observations from the same populations as in the literature. This method uses the variability observed in the literature for species-specific activity budgets to estimate the population parameters for each class of behavior: that is, its mean and standard deviation (as a percent of the total time). It assumes the populations are normally distributed. We thought this was a reasonable assumption because approximately normal distributions result when many causal events occur that equally shift values up or down (as can be seen in the sampling distribution of a binary distribution with a moderately sized N , such as $N = 30$). The method calculates a t -statistic using a sampling distribution calculated with a sample size of one. The two-tailed probability (p value) is the likelihood of random selection resulting in a sample ($n = 1$) that is as or more extreme than the value observed in the documentary. We then compared the p value for each t -value with our criterion to decide whether the documentary value was from the population as estimated from the wild field sites. We made four comparisons for each species, so as our criterion we used a Bonferroni corrected alpha of .0125.

To examine the representativeness of age-sex classes in documentaries, we followed a method similar to the analyses for activity budgets. Population distributions from the literature were compared with the overall distribution from documentaries of age-sex classes for each of

the four species of interest. Comparisons were made for the age-sex classes most commonly reported in the literature, as follows: adult males, adult females, juveniles (including adolescents), and infants. We made adjustments to the data to account for the fact that most reports in the literature were of group composition rather than population composition. After a thorough literature search we found that, in population censuses for our species of interest, single males and males in all-male groups comprised up to one-third of the total number of adult males (Yamagiwa, 1999). So, for species in which all-male groups and single males are common (i.e. *M. mulatta*, *L. catta*, and *G. beringei*), we multiplied the percentage of males by 1.5 and adjusted the percentages of the other age classes to sum to one hundred percent. This adjustment is conservative because it likely overestimates the proportion of adult males in a population. Comparisons were made with both the original data and the adjusted data. The adjustment was not made for *P. troglodytes*, as all-male groups are not commonly reported for that species. As with activity budgets, we made four comparisons per species, so we used a Bonferroni corrected alpha of .0125.

4.3 Results

Table 4.2 summarizes the activity budgets of the four most represented species in primate documentaries.

TABLE 4.2 Activity budgets from primate documentaries of the four most represented species, as a percentage of the total time that each species was shown engaged in each behavior, aggregated across all documentaries that showed the species.

Behavior	<i>Macaca mulatta</i>	<i>Pan troglodytes</i>	<i>Lemur catta</i>	<i>Gorilla beringei</i>
Feeding (natural source)	3.8	9.3	16.7	18.8
Feeding (anthropogenic source)	8.6	1.8	0.7	0
Resting	21.5	17.9	22.3	30.1
Traveling	34.9	19.3	31.8	25.1
Other	31.2	51.8	28.6	26.1
Playing	10.7	8.4	2.9	11.1
Tool use	0	13.1	0	0.6
Grooming	3.6	8.6	7.4	3.2
Agonism	6.6	3.3	4.3	1.4
Human-Primate Interaction	3.4	1.7	0.3	4.5
Multi-Species Interaction	1.6	2.9	0.6	0
Vocal Signaling	1.4	4.1	3.7	0.8
Mating	0.2	0.5	0.6	0.2
Physical Display	0.2	4.7	0.2	3.7
Miscellaneous	3.5	4.5	8.6	0.6

Figure 4.1 compares the three most common behaviors from film activity budgets to the same behaviors as reported in the primary literature. For comparison purposes, other behaviors are combined in an “other” category, but see Table 4.2 for details of the behaviors in the “other” category.

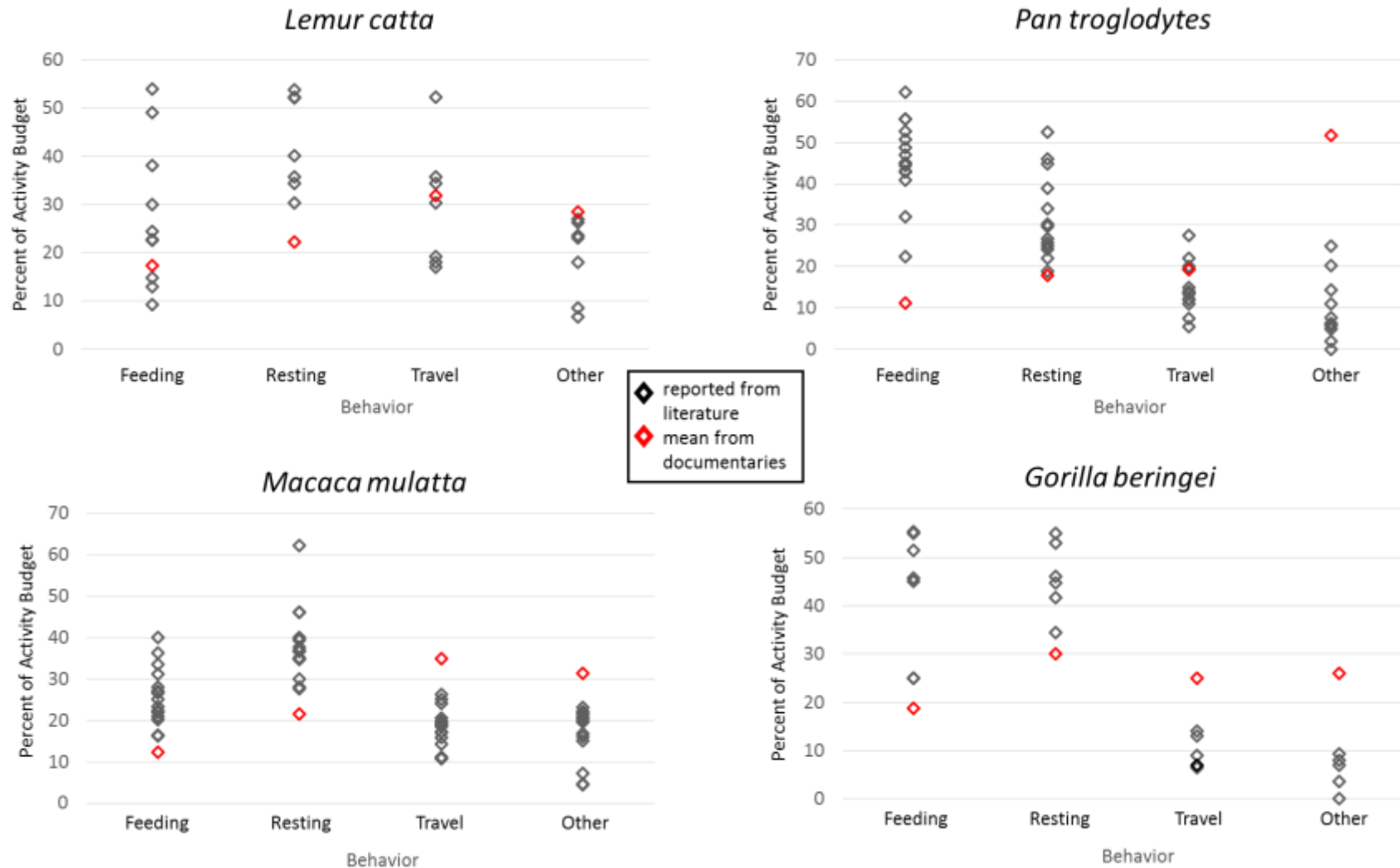


FIGURE 4.1 Species-specific activity budgets from the primary literature compared with activity budgets compiled from primate documentaries. Sources follow: for *Lemur catta* (Ellwanger & Gould, 2011; Kelley, 2011; Mertl-Millhollen et al., 2006; Rasamimanana et al., 2006; Simmen et al., 2010; Sussman, 1999); for *Pan troglodytes* (Boesch & Boesch-Achermann, 2000; Doran, 1997; Farmer, Buchanan-Smith, & Jamart, 2006; Fawcett, 2000; Ghiglieri, 1984; Hockings, Anderson, & Matsuzawa, 2012; Kosheleff

& Anderson, 2009; Newton-Fisher, 1999; Potts, Watts, & Wrangham, 2011; Sabater-Pi, 1979; Wrangham, 1975; Wrangham, 1977; Yamanashi & Hayashi, 2011); for *Macaca mulatta* (Chopra, Seth, & Seth, 1992; Jaman & Huffman, 2013; Malik, 1986; Malik & Southwick, 1988; Seth & Seth, 1986; Teas et al., 1980); for *Gorilla beringei* (Fossey & Harcourt, 1977; Lehmann, Korstjens, & Dunbar, 2008; Watts, 1988).

Statistical analyses suggested that feeding was underrepresented for chimpanzees ($p < .001$); traveling was overrepresented for rhesus macaques ($p = .001$) and gorillas ($p < .001$); and “other” behaviors were overrepresented for chimpanzees and mountain gorillas ($ps < .001$). The overrepresentation of “other” behaviors in chimpanzees could be driven in part by tool use, which accounted for 25.9% of the “other” behavioral category. Approximately 50% of the recognized tool use behaviors at one field site are related to food acquisition (e.g. ant dipping and termite fishing, Sanz & Morgan, 2007), so it may be misleading to classify tool use behaviors only as tool use instead of feeding. To evaluate this possibility, we reclassified half of chimpanzee tool use as feeding. When doing so, feeding was still underrepresented ($p = .004$) and “other” behaviors were still overrepresented ($p < .001$). Table 4.3 summarizes the results of comparing activity budgets of documentaries with the primary literature.

TABLE 4.3 Comparison of activity budgets from the primary literature vs. documentary films.

Behavior by Species	Mean from Literature	SD from Literature	Documentary Value	<i>t</i> value	<i>p</i> value
<i>Macaca mulatta</i>					
Feed	25.67	6.71	12.36	-1.94	.058
Rest	37.73	8.62	21.45	-1.85	.071
Travel	18.06	4.74	34.88	3.47	.001*
Other	18.44	8.78	31.31	1.44	.158
<i>Pan troglodytes</i>					
Feed	45.89	9.72	11.1	-3.49	.001*
Rest	32.21	10.35	17.9	-1.35	.185
Travel	14.80	5.78	19.27	0.75	.455
Other	9.36	7.66	51.75	5.40	<.001*
<i>Lemur catta</i>					
Feed	27.80	15.05	17.4	-0.67	.507
Rest	42.65	9.82	22.27	-2.02	.052
Travel	29.55	12.77	31.8	0.75	.457
Other	18.99	8.32	28.52	1.11	.273
<i>Gorilla beringei</i>					
Feed	43.24	13.10	18.8	-1.80	.082
Rest	45.82	7.54	30.12	-2.01	.054
Travel	9.88	3.46	25.08	4.25	<.001*
Other	5.60	3.39	26.01	5.82	<.001*

Figure 4.2 compares species-specific age-sex distributions from the literature to the age-sex distributions observed in documentaries. Only one age-sex class (adult males in *L. catta*) differed significantly in documentaries compared to literature estimates. Adult male ring-tailed lemurs were significantly underrepresented in documentaries (t -score = -2.95, $p = 0.007$ before adjusting for all-male bands; t -score = -4.44, $p = 0.0001$ after adjusting for all-male bands). After adjusting for all-male bands, adult female lemurs (t -score = 7.12, $p < 0.0001$) and infant lemurs (t -score = 3.34, $p = 0.002$) emerge as significantly overrepresented.

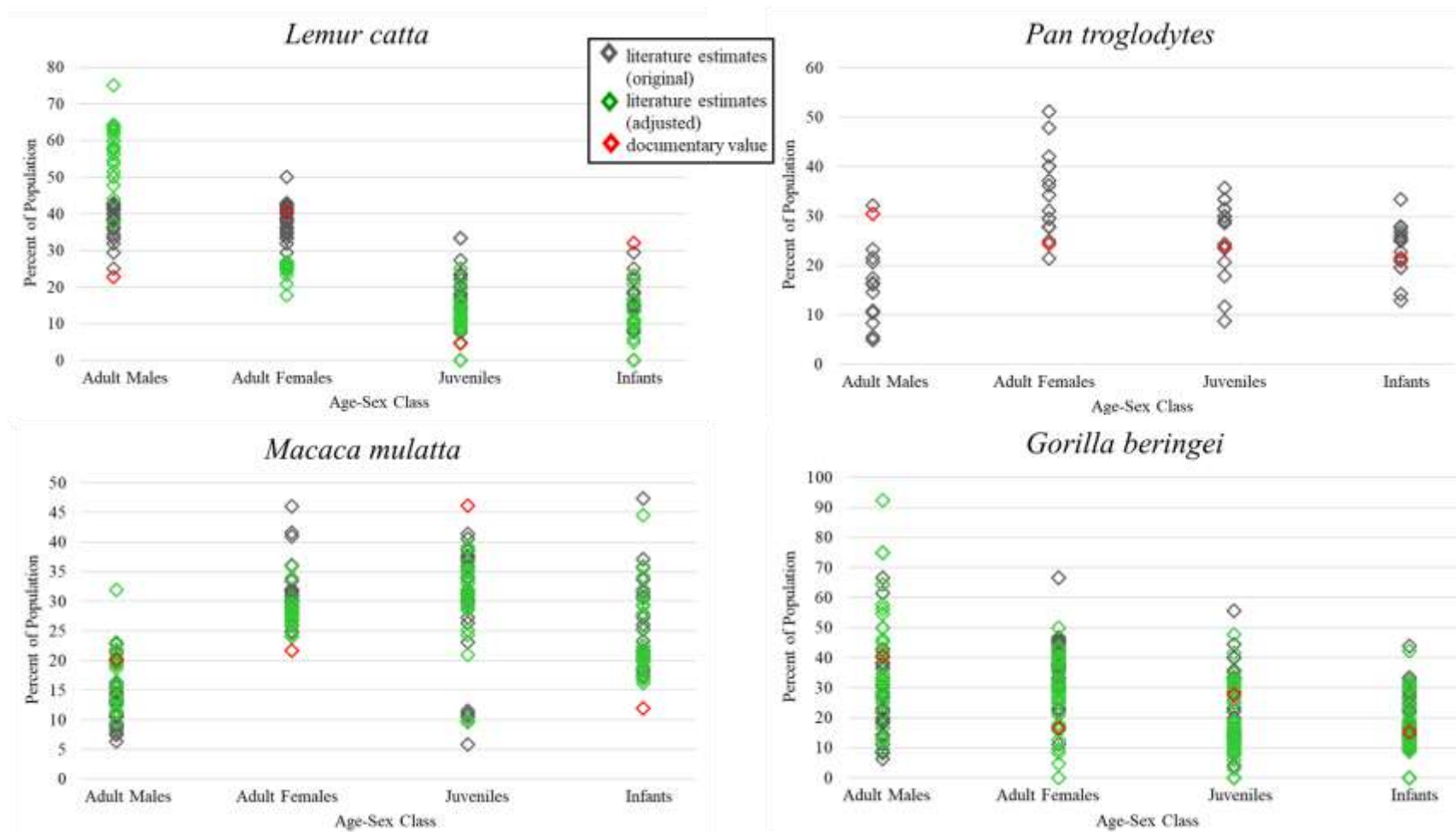


FIGURE 4.2 Species-specific age-sex distributions from the primary literature compared with age-sex distributions compiled from primate documentaries. Values from the literature are mostly based on group composition rather than population composition. Therefore, for species that form all-male bands (*L. catta*, *M. mulatta*, and *G. beringei*), we created adjusted age-sex distributions by multiplying the male percentage by 1.5 and adjusting the other percentages accordingly. Sources follow: for *Lemur catta* (Budnitz & Dainis, 1975; Kelley, 2011; Sussman, 1999); for *Pan troglodytes* (Albrecht & Dunnet, 1971; Fawcett, 2000; Hiraiwa-Hasegawa, Hasegawa, & Nishida, 1984; Itani, 1967; Nishida, 1968; Nishida et al., 2003; Potts, Watts, & Wrangham, 2011; Sakura, 1994;

Sugiyama, 1968, 1984); for *Macaca mulatta* (Chopra, Seth, & Seth, 1992; Makwana, 1978; Mukherjee & Mukherjee, 1972; Pirta, Gadgil, & Kharshikar, 1997; Seth & Seth, 1986; Southwick & Siddiqi, 1966); for *Gorilla beringei* (Fossey, 1974; Ganas et al., 2004; Schaller, 1963; Weber & Vedder, 1983; Yamagiwa, 1999).

4.3.1 Inaccuracies

We documented inaccuracies for all four of the most represented species. Rhesus macaques had 47 documented inaccuracies, approximately 3.69 per hour of rhesus macaque screen time.

Chimpanzees had 24 documented inaccuracies, approximately 2.37 per hour of chimpanzee screen time. Ring-tailed lemurs had only five documented inaccuracies, approximately 0.67

inaccuracies per hour of ring-tailed lemur screen time. Mountain gorillas had 16 documented

inaccuracies, approximately 2.88 per hour of mountain gorilla screen time. Table 4.4 summarizes

the inaccuracies detected for the four most represented primate species. However, this list should

not be considered comprehensive: it only includes inaccuracies that were relevant for the species

of interest, and it excludes errors that were relevant to primates generally.

TABLE 4.4 Categories of detected inaccuracies, by species. Rates per hour are in parentheses.

	<i>M. mulatta</i>	<i>P. troglodytes</i>	<i>L. catta</i>	<i>G. beringei</i>	TOTAL
	Total (#/hr)	Total (#/hr)	Total (#/hr)	Total (#/hr)	
Hyperbole	3 (0.24)	0 (0)	0 (0)	0 (0)	3 (0.08)
Projection	7 (0.55)	0 (0)	3 (0.40)	0 (0)	10 (0.28)
Mischaracterization	12 (0.94)	10 (0.99)	0 (0)	10 (1.8)	32 (0.89)
Incorrect Term	2 (0.16)	8 (0.79)	0 (0)	3 (0.54)	13 (0.36)
Inaccurate Science	10 (0.79)	4 (0.40)	1 (0.13)	2 (0.36)	17 (0.47)
Narration-Footage Mismatch	13 (1.02)	2 (0.20)	1 (0.13)	0 (0)	16 (0.45)
TOTAL	47 (3.69)	24 (2.37)	5 (0.67)	15 (2.70)	91 (2.54)

We noted that exceedingly rare situations were represented often in primate documentaries. For example, the Disneynature film *Chimpanzee* depicts an orphaned infant male (Oscar) being adopted by an adult male chimpanzee. While it is extraordinary that the film crew documented such a rare event, it may lead audiences to believe that such occurrences are common. In reality, researchers observed 10 cases of adoption in 27 years of data collection at that site (Boesch, Bolé, Eckhardt, & Boesch, 2010). In addition, the film's ending of the infant

thriving with his adopted caregiver did not reflect reality. Oscar disappeared before he was five years old, which is what would be expected for such a young orphan (von Leszczynski, 2013).

Infanticide is more common among primates than the adoption scenario described above. However, documentaries overstated the occurrence of infanticide by describing it as something that regularly happens. For example, in episode 11 of *Monkey Thieves*, the narrator said, "New leaders only tolerate offspring they think are theirs. They kill the rest." In fact, infanticide by a rhesus macaque was not documented in the wild until 1981, when researchers observed a male kill one infant (Ciani, 1984). We could find no documented occurrences of a male rhesus macaque killing most of the infants in a group.

4.4 Discussion

Our analyses discovered some notable inaccuracies in documentary depictions of wild primates. We considered the three major classes of behavior (feeding, resting, and traveling) and a fourth category for the remaining behaviors. For the four behavior classes for four species, the resulting sixteen comparisons of documentaries with field research showed that (a) 13 of the 16 documentary values were the most extreme observation, but (b) when estimating population parameters from field observations and estimating the likelihood of randomly selecting the documentary value, only 5 of the 16 analysis were statistically significant. Together these results suggest that documentaries provide a biased depiction of wild primate activity budgets, but that for some behaviors and for some species the depiction is close to accurate or accurate. Indeed, significant differences were found only for chimpanzees, rhesus macaques, and mountain gorillas – ring-tailed lemurs had no significant comparisons. Ring-tailed lemurs also had the lowest rate of detected inaccuracies, suggesting that the existing documentaries about ring-tailed lemurs are more accurate than the existing documentaries about chimpanzees, mountain gorillas,

and rhesus macaques. However, ring-tailed lemurs were the only species with a significantly misrepresented age-sex class (i.e. adult males), suggesting that there is still room for improvement in lemur documentaries.

The overrepresentation of traveling in rhesus macaque and mountain gorilla documentaries may reflect the versatility of footage of primates traveling. Traveling is commonly shown in conjunction with a voice-over narrated storyline. For example, in episode six of *Monkey Thieves*, footage of a rhesus macaque traveling is spliced with footage of an aggressive macaque interaction. The narrator describes a prolonged aggressive interaction, with the suggestion that the traveling monkey is pursuing another macaque. The practice of narrating anthropomorphic intentions to otherwise mundane footage was common in documentaries – especially in series like *Monkey Thieves* and *Lemur Street*. Footage of traveling primates was particularly useful for such purposes because the narrator could describe a variety of scenarios, from primates running to join a fight to primates searching for a lost infant. Other types of footage were also used in this manner, including that of resting primates, which were commonly paired with a narrator ascribing mental states to the primates. For example, episode five of *Monkey Thieves* shows an adult female macaque resting as the narrator says, “Rani seems intrigued.”

Although the overrepresentation of traveling was likely due to the versatility of the footage for filling in storylines, social behaviors and behaviors that made a species unique or interesting likely drove the overrepresentation of “other” behaviors in chimpanzees and mountain gorillas. “Other behaviors” included everything from tool use to mating and grooming. Chimpanzees have an extensive repertoire of tool-use behaviors such as nut cracking, termite fishing, ant dipping, honey gathering, and using leaf sponges (Sanz & Morgan, 2007). The

breadth and depth of this repertoire sets chimpanzees apart from other non-human primates (Seed & Byrne, 2010). The focus on tool use in chimpanzees – accounting for 13% of their total screen time – contributed to a representation of chimpanzee behavior that differed substantially from researcher reports of chimpanzee behavior in the wild. This pattern remained even when we reclassified half of the tool use behaviors as feeding to reflect the fact that many tool-use behaviors are extractive foraging techniques (Sanz & Morgan, 2007). The overrepresentation of the “Other” category in chimpanzees was likely driven by tool use, but the explanation for mountain gorillas was less clear. Perhaps it was driven by social behaviors such as play, which accounted for 11.1% of the mountain gorillas’ documentary activity budget as compared to the 6 to 7% of wild mountain gorillas’ activity budgets (Fossey & Harcourt, 1977). In addition, physical displays (3.7% of the documentary activity budget) and grooming (3.2% of the activity budget) also contributed to the overrepresentation of the “other” category in documentary activity budgets. Although we could not find estimates of the percentage of time mountain gorillas in the wild spend on physical displays and grooming, we did find that feeding, resting, traveling, and playing accounted for approximately 99% of the activity budgets of mountain gorillas at Karisoke, leaving less than 1% of their time available for all other behaviors, which would include physical displays and grooming, among other behaviors (Fossey & Harcourt, 1977). The overrepresentation of social behaviors such as play, grooming, and physical displays were likely driven by the appeal of such footage to audiences.

Based on the divergence between wild primate behavior and documentary film portrayal of such behavior, we agree with Boswall (1998) that some films should show a disclaimer clarifying that the behavior of animals in the wild differs from the behavior presented on television. In addition or as an alternative, Attenborough (1961) suggested that brief comments

by a narrator could be helpful for preventing misconceptions by the audience. A narrator could address behavioral differences between wild animals and those depicted in the documentary, perhaps by specifying the proportion of time that primates typically engage in the depicted behaviors. For example, during footage of chimpanzees engaged in aggression, a narrator could say that aggression has important fitness consequences for the animals involved (e.g. Gilby et al., 2013) (and is thus interesting for audiences to watch), but it actually takes up a small percentage of how the animals spend their time. Further, to avoid confusing and misleading audiences, we suggest that sensationalized shows like *Monkey Thieves* and the even more sensational *Dark Days in Monkey City* (featuring toque macaques), which make heavy use of staging, composite characters, and fictionalized storylines, should be reclassified as docudramas or “dramas inspired by true events” rather than as documentaries. This could help audiences manage their expectations about the degree of reality they observe in such shows. Filmmakers have many options for more accurately portraying primates, but we suggest that primatologists also have an important role.

4.4.1 Documentary Ethics and Primatology

Fedigan (2010) delineated the ethical concerns that primatologists face when working with free-ranging primates. She classified these concerns into the “Three P’s”: Presence, Protocols, and People. Presence encompasses issues that arise from researchers’ presence in the field, such as potential disease transmission to primates. Protocol issues arise due to research activities, such as the elevated hunting risk that some primates face following habituation efforts by researchers. People-centered ethical issues can occur through interactions of primatologists with local people; for example, the desire of primatologists to protect endangered study species may conflict with the needs of local people who wish to harvest resources from the forest. As MacKinnon and

Riley (2010) pointed out, the ethical dilemmas faced by field primatologists are varied and change over time, requiring ongoing consideration. In that vein, we propose a fourth “P”: Portrayal. Existing ethical considerations that have been raised by field primatologists largely center around nonhuman primates, the ecosystems in which the primates exist, and the local human communities with which primatologists interact during their research (Fedigan, 2010; MacKinnon & Riley, 2010, 2013). We propose that, in addition to these, primatologists should also consider the broader audience of people who will see portrayals of primates, such as via documentary films. We agree with other scholars that the first responsibility is to the animals (Richards, 2014), then the local community, and then the larger audience (Palmer, 2010, 2015), but point out that the larger audience can have important consequences for animals via primate conservation and influences on documentary production.

Over the past several decades, primatologists have become increasingly involved in the making of wildlife documentaries. Primatologists now frequently work with film crews both in the field and as scientific consultants during the editing process. If wildlife documentaries impact the beliefs, attitudes, and actions of audiences, as many scholars believe they do (Bousé, 2000; Goodall, 2015; Palmer, 2010, 2015), then the portrayal of primates in documentaries could have real-life impacts on primate populations. The issue of working with filmmakers was indirectly addressed in the *Code of Best Practices for Field Primatology* (International Primatological Society & American Society of Primatologists, 2014), “Primatologists should think carefully about the ways in which they disseminate their scientific findings and should invest every effort to inform and educate the mass media, and when applicable, to avoid the use of a sensationalist language that may have negative consequences for the conservation of primates and the credibility of scientific research” (pg. 11). Collaborations with filmmakers provide

primatologists with opportunities to ensure the responsible and accurate portrayal of primate study subjects.

These opportunities arise both in the field when working with film crews and in post-production when serving as scientific consultants after filming has taken place. In the field, working to ensure responsible and accurate portrayal of primates could involve refusing to work with film crews who behave irresponsibly, making suggestions for less invasive methods, and helping film crews to behave in ways that minimize distress to the primates and minimize impacts on primate habitats. In addition, our results indicate that the portrayal of activity budgets is sometimes skewed. Primatologists could suggest that film crews obtain footage of common behaviors like eating and resting in addition to footage of more sensational behaviors like aggression, in order to present a more balanced view of primate lives. Finally, to ensure portrayal of a broader scope of primate biodiversity than the currently limited scope that is presented to audiences (Riley Koenig, et al., under review), primatologists could facilitate acquisition of footage of other primate species in the vicinity of the species on which the film crew is focusing.

During the post-production process primatologists are sometimes brought in as scientific consultants. When working with filmmakers during post-production, primatologists should carefully review narration to ensure that facts have been presented accurately. If language is sensational, inaccurate, or misleading, it would be helpful to suggest alternative wording. If misleading editing techniques are detected, primatologists can suggest that the filmmaker use a disclaimer or a pop-up on the screen, as suggested by Boswall (1998). Although these suggestions may not be acted on by the filmmaker, it is important to speak up and ensure that these issues are being recognized and discussed. Finally, primatologists are often listed in the end credits as scientific consultants. Primatologists who have worked with a film crew and are

unhappy with the way the crew conducted themselves, or with how primates were portrayed, should consider requesting that their names be removed from the credits in order to avoid appearing as though they endorse the film or its content.

Pollo and colleagues (2009) pointed out that audiences trust that wildlife documentaries portray animals accurately. However, as this research shows, wildlife documentaries are not always true-to-nature. As experts who are frequently consulted about making primate films, primatologists have an opportunity to advocate for both audiences and animals. Primatologist consultants have the unusual opportunity to try to ensure that audiences are being presented with facts and that animals are being portrayed fairly and accurately.

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Chapter 5: Conclusion

Non-human primates are an incredibly diverse group of over 400 recognized species (International Union for the Conservation of Nature, 2017), ranging from the tiny mouse lemur (less than 100 grams) to the massive male gorilla (approximately 200 kilograms). Extant primates have a broad geographical range, from Japan in the north to South Africa in the south (Fleagle, 1999). As a group, primates tend to be large-brained, adaptable, social, and relatively long-lived. Due to their evolutionary closeness to humans, primates are often studied to generate insights into human evolution and behavior. As such, our understanding of primates has relevance for how we see ourselves as humans.

Contemporary modern humans have varied experiences with non-human primates. Many people living in human-primate interface zones live alongside primates their entire lives and have knowledge of primates that is shared within their communities and across generations. However, modern technology has the potential to introduce new dynamics into these interfaces by exposing people to media depictions of primates (including primate documentaries) that provide a different impression of primates. At the same time, people outside of human-primate interface zones typically lack firsthand experience with wild primates and know primates instead based on experiences at zoos, museums, and in the media. Indeed, zoos, museums, and primate documentaries are the primary sources of information for people without easy access to wild primates (Durham, 1993). Most primate documentaries are targeted toward Western audiences who live in areas that lack naturally occurring wild primates (Wright, 2010). Western audiences who receive false or misleading information about primates via documentaries may have little to no opportunity to have false impressions corrected through direct experiences with wild

primates. Of particular concern is the highly-endangered status of many primates (Estrada et al., 2017), and the potential for documentaries to impact people's real-world conservation and advocacy behavior (Arendt & Matthes, 2016; Clark, 2006). Perhaps most profound is the impact that non-human primates have on how humans understand themselves and their connection to the natural world. For example, by seeing ourselves as animals that depend on a healthy ecosystem we might be more likely to avoid catastrophic damage to local and global ecosystems. Despite the importance of primate documentaries, they have been the focus of very little research (Watts, 2006; Wright, 2010).

The value of related research on the media portrayal of anthropology and anthropologists was made evident by Weston and colleagues (2015) when they said, "Representations vary in their accuracy and range between the real and the fantastical, but each plays a role in shaping public perception of anthropology. It would be beneficial for the discipline to play an active role in discussing the ways in which we are represented in popular culture. Are anthropologists represented realistically?" (pg. 317). These concerns are important for understanding fictional depictions of anthropologists, and may be even more meaningful for understanding ostensibly non-fictional depictions relevant to the discipline of primatology, because audiences are more likely to accept such depictions at face value (Chris, 2006). The concerns of Weston and colleagues (2015) about representations of anthropologists apply with equal force to non-human primates: Are primates represented realistically? What roles can primatologists play in shaping the public perception of non-human primates?

This dissertation provided some answers to these and related questions via an in-depth analysis of all available documentaries on wild, non-human primates. We compiled an exhaustive list of 290 documentary films that feature free-ranging primates. It was compiled in

part by querying 219 college-level anthropology-instructor respondents about their use of documentary films in their classrooms. Following the compilation of this list of films, each available film ($n = 210$) was screened, and every primate species appearing in the film was documented. Primate behavior was coded continuously, and scan samples of age-sex class were conducted at three minute intervals. Any detected inaccuracies or misleading editing techniques were recorded *ad libitum*. After screening each film, a review was written. These data provided the following answers to six research questions:

1) Are primate taxa equally or proportionally (based on the number of species per taxon)

represented in documentaries? No. Primate taxa are represented neither equally nor in proportion to the number of species per taxon. See Chapter Three.

2) Are primates of different conservation statuses (e.g. Critically Endangered, Least

Concern) equally or proportionally represented in documentaries? No. Primates of various conservation statuses are not represented equally or proportionally (based on the number of species per taxon). See Chapter Three.

3) Are nocturnal and non-nocturnal primates equally or proportionally represented in

documentaries? No. Nocturnal primates are underrepresented compared to non-nocturnal primates. See Chapter Three.

4) Do depictions of wild primate behavior in documentaries differ from researchers'

reports of wild primate behavior? Yes, but some species are represented more accurately than others. See Chapter Four.

5) Are documentaries about free-ranging primates widely used in the teaching of biological

anthropology? Yes. Ninety-six percent of the college anthropology instructors who responded to our survey reported having used a primate documentary in teaching. See Chapter Two.

6) Which factors affect instructors' decisions about which primate documentaries to show to their classes? The number of primate species in the film, availability, entertainment value, and accuracy, but not conservation content, were important factors in instructor choice of documentaries. See Chapter Two.

To recap, this research was presented in five main components (an introduction, three chapters that report research results, and an appendix). Chapter One, "An Overview of the Representation of Primates in Wildlife Documentaries," provided an original historical overview of primate documentary films since their inception. It chronicled the evolution of the primate documentary film genre from the early, sensationalist safari films to contemporary primate documentaries that vary widely: ranging across scientific films that focus on education, blue chip films intended to awe audiences, presenter-led films concentrated on thrills and excitement, and docudramas designed to entertain. These subgenres evolved over the course of documentary history, but all persist in the modern day, with filmmakers blending elements of them when creating new primate documentaries. The introduction also discussed the long-held practice of misleading editing, which is done in order to create a seamless storyline, to increase audience engagement, and/or to create drama. As cinematography and editing techniques have advanced rapidly over the past several decades, these techniques have become increasingly difficult to detect and are often invisible to audiences. The disconnect between the drama presented in wildlife films and the reality they portray has led some experts to question whether such films belong in the documentary genre (Bousé, 1998). Nevertheless, audiences trust that wildlife films accurately represent wildlife (Chris, 2006).

Chapter Two, "Teaching Anthropology with Primate Documentaries: Investigating Instructors' Use of Films and Introducing the Primate Films Database," written with co-authors

Bryan L. Koenig and Crickette M. Sanz and published in *American Anthropologist*, summarized the results of an online survey in which college-level anthropology instructors shared how they use primate documentaries in their classrooms (Riley Koenig, Koenig, & Sanz, 2018).

Documentary use was widespread, with 96% of respondents reporting that they had used primate documentaries in their courses. Instructors preferred to use entertaining and accurate films over anthropomorphic and misleading films, but instructors did not have a preference regarding the presence of a conservation message. Films with a large number of primate species were preferred over those focusing on one or few species, and four films (*BBC Life: Primates*; *Life on Earth: Life in the Trees*; *The Life of Mammals: Social Climbers*; and *Nature: Clever Monkeys*) were substantially more popular than other films. Based on our findings, we recommended that institutions and individuals try to curate film collections so that instructors will have access to the films that will be most useful to them. To facilitate the curation of film collections and to assist instructors and other interested individuals in finding primate documentaries that meet their needs, we created the Primate Films Database, which was introduced to the scientific community when *American Anthropologist* published Chapter Two.

The Primate Films Database is a freely available online resource (<https://anthropology.artsci.wustl.edu/primate-films-database>) that provides information intended to assist instructors when selecting documentaries for pedagogical applications. Information includes broad-level reviews (by CMRK), a rating provided by the reviewer, an average of ratings provided by instructors who have used the film, run times, a list of primate species included in the film, the identity of the narrator or presenter, and notes about any issues that may be relevant for educational purposes (e.g. mistakes in the film). The Database will be updated

periodically as new films become available. The current version of the Database is provided in Appendix E (Riley Koenig & Sanz, 2017).

Chapter Three, “Overrepresentation of Flagship Species in Primate Documentaries and Opportunities for Promoting Biodiversity,” addresses the differential representation of primate species in primate documentaries (Riley Koenig, Koenig, & Sanz, under review). We found that primate documentaries failed to capture the full scope of primate biodiversity by including only 32% of extant primate species in a sample of 210 documentaries. Species with the most screen time tended to be large-bodied, non-nocturnal species, and were especially likely to be African apes. In addition, primates classified as Endangered or as species of Least Concern were overrepresented while Vulnerable and Near Threatened species were underrepresented. The presentation of a narrow, biased sample of primate species could impact how audiences understand primate biodiversity and relevant conservation issues.

Chapter Four, “Portrayals of Wild Primates in Documentary Films: Reason for Concern?” examined how primate behavior and population characteristics are represented in documentary films (Riley Koenig, Koenig, & Sanz, in preparation). We focused on the four species most represented in primate documentaries (rhesus macaques, chimpanzees, ring-tailed lemurs, and mountain gorillas). Documentary depictions of the age-sex breakdown of populations did not notably diverge from field reports except for the underrepresentation of adult male ring-tailed lemurs. In contrast to the skewed depiction of population demographics, we did not find a notable difference for ring-tailed lemurs when comparing documentary activity budgets with researcher reports of free-ranging primate behavior. Activity budgets for documentary portrayals of behaviors of the other three species overrepresented traveling and social behaviors (e.g. grooming and playing) to varying degrees. Other inaccuracies, such as

referring to a monkey as an ape, were documented for all four species, with rhesus macaques having the highest rate of inaccuracies. Based on these results, we proposed that primatologists have an ethical obligation to advocate for accurate and realistic portrayal of primates and their habitats. This can be achieved by collaborating with filmmakers and critically reviewing portrayals of primates in documentaries. As mentioned above, documentary films are commonly used in educational settings and can be effective outreach tools and ensuring their quality can impact public perceptions of primates.

5.1 Synthesis

A key finding of this research is that documentaries often portrayed primates inaccurately. Misleading representations manifested in a variety of ways, including a skewed representation of primate biodiversity, portrayals of primate behavior that differed from how primates behave in the wild, misrepresentation of wild primate population characteristics, and ample evidence of inaccuracies and mistakes presented as facts. Together, these results demonstrate the systematic misrepresentation of wild primates in documentaries.

This body of research illuminated an alternate reality that is depicted in primate documentaries that diverges in critical and systematic ways from primates in the real world. The primate documentary reality represents a fraction of primate biodiversity. It depicts a world that is populated mostly by large-bodied primates, non-nocturnal primates, African apes, and Endangered and Least Concern species. By contrast, despite comprising a large proportion of wild primates in the real world, smaller-bodied primates, nocturnal primates, New World monkeys, prosimians, Vulnerable and Near Threatened species are vastly underrepresented in the world depicted by documentaries. In addition to being populated by a non-representative subset of the Primate Order, the reality presented by primate documentaries differs from the real world

in the behavior of the species shown on screen. In general, documentaries depicted primates as spending more time traveling and socializing than primates actually do in the wild. The various facets of the alternate reality presented in primate documentaries are often subtle – a large scale analysis of content was necessary to uncover biases in species and behavior representation.

However, sometimes the differences between the real world and the documentary world are more obvious to a primatologist – but unlikely to be noticed by a layperson – such as errors in species identification or other relevant terminology, or when narrators and presenters make inaccurate, hyperbolic, or anthropomorphic claims. Such inaccuracies occurred for primates from every taxon and conservation status.

The misleading representation of primates in documentaries is problematic because previous research has shown that wildlife documentaries are trusted by audiences as accurate sources of information (Chris, 2006). This dissertation further demonstrated the degree to which primate documentaries are trusted sources by showing that such documentaries are widely used in the teaching of college anthropology. To help instructors make the best use of available documentaries for teaching purposes, we created the Primate Films Database. Not only does it provide a list of available wild-primate documentaries, it also includes a review of each film for potential use as a teaching tool, summarizing the film and noting mistakes and inaccuracies found in the documentaries to facilitate the accurate communication of information about primates to students. Hopefully the Primate Films Database and the publications related to this dissertation will provide a step in the direction of educating the public (and college instructors) regarding the prevalence and nature of mischaracterizations and inaccuracies in primate documentaries.

5.2 Broader Implications

The results of this research have implications for primatologists, animal researchers in other fields, filmmakers, educators, and the general public. For primatologists, our results suggest that the primatology community should play a greater role in trying to ensure the accurate portrayal of primates to the general public. There is some evidence that wildlife documentaries may impact conservation beliefs, attitudes, and even actions (Arendt & Matthes, 2016; Clark, 2006; Holbert, Kwak, & Shah, 2003). As such, the portrayal of primates to the public may have real-world effects on primate populations. At a time when many primates are endangered (Estrada et al., 2017), public perception of primates should be taken seriously because it could have profound consequences.

The results of this dissertation are also relevant to scientists who focus on species other than primates. This is the first comprehensive analysis of how a taxon is portrayed in documentary film. Other taxa, especially predators, are likely to have much more sensational depictions in documentary film (see Palmer, 2010, 2015 for examples). Researchers who focus on other taxa may be interested in conducting similar research to better understand how their taxon of interest is being portrayed to the general public. The recommendations that we made for primatologists regarding collaboration with film crews are also relevant for researchers who study other animal species.

Filmmakers may also be interested in these results. We hope that by highlighting areas in which films diverge from reality (especially in portrayal of biodiversity and behavior), our findings will inspire filmmakers to improve the way animals are depicted in documentaries. The rising tide of criticism both from within and outside the industry (e.g. Boswall 1986, 1997; Bousé, 1998, 2000; Palmer 2010, 2015) may motivate filmmakers to make changes regarding

how misleading editing techniques are employed and how primates and other wildlife are portrayed. This research provides suggestions for some areas that could be improved.

For college educators, particularly those in anthropology and related fields, our results encourage careful selection of documentaries before sharing with students. Researching a film ahead of time will help instructors to avoid misleading or sensational films, and/or to highlight any inaccuracies included in the film. The Primate Films Database should be a useful tool for helping instructors achieve their teaching goals. We hope that the characterization of films most frequently used for instructional purposes will facilitate the development and sharing of companion resources to better integrate these films into classroom instruction.

Finally, for general audiences, we hope that this research will increase awareness about the existence of misleading and inaccurate content in documentaries, creating more informed viewers. Many primate species face daunting challenges to their survival (Estrada et al., 2017; Gross, 2017). We hope that, rather than lulling audiences into a false sense of security with misleading presentations of primates thriving in pristine habitats, educating audiences with accurate information about these charismatic animals will inspire conservation action that is seriously needed.

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Appendix A: Average Film Ratings from Instructor Survey

TABLE A.1 Average ratings of films shown by at least 1 participant

Film Title (Year Released)	Showed Film (n)	Rated Film (n)	Rating	
			Mean	SD
Various Species				
Animal Secrets: Primates (1964)	2	0	-	-
BBC Life: Primates (2009)	96	83	4.22	0.73
Documentary Educational Resources: Five Species (1997)	10	10	3.60	0.97
Documentary Educational Resources: Introduction to the Primates (2006)	8	7	3.00	1.53
Documentary Educational Resources: Primate-Human Interaction (1997)	1	1	4.00	-
Documentary Educational Resources: What Do Primatologists Do? (1997)	4	2	4.50	0.71
Going Ape (2006)	3	2	3.00	0.00
Life on Earth: Life in the Trees (1979)	91	73	4.27	0.92
Monkeys and Apes (1933)	1	1	2.00	-
Monkeys, Apes, and Man (1971)	4	3	3.00	0.00
Monkey Planet (2014)	7	3	3.33	1.15
Nature: Clever Monkeys (2008)	78	70	4.04	0.94
Nature: Tiwai: Island of the Apes (1992)	10	9	3.44	0.88
Survey of the Primates (1970)	15	10	3.00	0.82
The Great Apes (1970)	11	8	3.13	0.64
The Life of Mammals: Social Climbers (2003)	82	74	4.51	0.73
The Wonder of Animals: Great Apes (2014)	3	2	3.00	0.00
The World About Us: Monkeys & Apes (1976)	1	0	-	-
The World About Us: Search for the Great Apes (1975)	4	1	4.00	-
YouTube or other Internet video	96	-	-	-
Other film not listed	115	-	-	-
African apes				
Bonobos: Back to the Wild (2015)	7	5	3.60	0.55
Champions of the Wild: Bonobos (2000)	2	2	3.00	0.00
Champions of the Wild: Mountain Gorillas (1999)	5	4	3.25	1.26
Chimpanzee (2012)	16	12	4.08	1.16
Chimps: Kalunde the Kingmaker (2008)	1	1	5.00	-
Documentary Educational Resources: Chimpanzees Today (2001)	1	1	3.00	-
Gorilla (1974)	1	1	4.00	-
Gorillas: Primal Contact (2002)	1	1	3.00	-
Horizon: Chimps are People Too (2006)	2	1	3.00	-
Jane Goodall: Studies of the Chimpanzee (1976-77)	18	12	3.92	0.79
Jane Goodall's Wild Chimpanzees (2002)	47	38	3.89	0.80
Living with Gorillas (2000)	3	1	4.00	-

Miss Jane Goodall and the Wild Chimpanzees (1965)	10	7	3.86	0.90
Mountain Gorilla (1992)	9	8	3.88	0.83
My Life Among Wild Chimpanzees (1967)	14	0	-	-
National Geographic Explorer: Gorilla Murders (2008)	8	7	3.86	1.35
Natural World: Chimps of the Lost Gorge (2011)	2	2	5.00	0.00
Nature: Gorilla: King of the Congo (1993)	1	0	-	-
Nature: Gorillas (1989)	7	4	4.25	0.50
Nature: Jane Goodall's Wild Chimpanzees (1996)	22	16	4.06	0.85
People of the Forest: The Chimps of Gombe (1989)	19	14	3.64	0.84
Saving a Species: Gorillas on the Brink (2007)	2	2	3.00	0.00
The Gorilla King (2008)	16	13	4.54	0.66
The Natural World: Among the Wild Chimpanzees (1984)	10	9	4.22	1.09
The Natural World: Gorillas in the Midst of Man (1989)	2	1	3.00	-
The New Chimpanzees (1995)	50	40	4.48	0.68
Titus: The Gorilla King (2008)	12	10	4.60	0.70
Virunga (2014)	22	20	4.40	0.75
Vocalization of Wild Chimpanzees (1971)	4			
Wildlife on One: Pygmy Chimpanzee: The Last Great Ape (1997)	12	4	5.00	0.00
YouTube or other internet video	42	-	-	-
Other film not listed	31	-	-	-
Asian apes				
Champions of the Wild: Orangutans (1999)	4	3	3.33	0.58
Champions of the Wild: White-handed Gibbons (2000)	3	2	4.50	0.71
Gibbon Locomotion (1971)	4	2	3.50	0.71
Gibbons: Back in the Swing (2008)	1	1	4.00	-
Green the Film (2012)	6	6	4.50	0.55
Nature: Orangutans: Just Hangin' On (1997)	6	3	3.67	1.15
Nature: The Last Orangutan Eden (2015)	18	15	3.87	0.92
Orangutan Diaries (2012)	3	3	3.33	1.53
Orphans of the Forest (1975)	2	2	3.50	0.71
The Natural World: Orangutans: The High Society (1998)	5	5	4.20	0.84
Wildlife on One: Orang Utans: Out on a Limb (1994)	2	2	5.00	0.00
YouTube or other Internet video	32	-	-	-
Other film not listed	18	-	-	-
African Old World Monkeys				
Baboon (1935)	1	1	4.00	-
Bleeding Hearts and Bone Crushers (1967)	4	4	3.25	0.50
Cheeky Monkey (2015)	4	4	3.75	0.96
Disney Baboon Films (1955)	1	1	3.00	-
Documentary Educational Resources: Images from the Field: Baboons (1997)	2	2	4.00	1.41
Irven DeVore's Baboon Films (1963)	9	7	4.00	1.00
Keepers of the Forest: The Red Colobus of Zanzibar (2000)	4	4	4.50	0.58
Natural World: Living with Baboons (2012)	4	3	4.33	0.58

Nature: Mask of the Mandrill (1996)	17	15	3.80	0.86
Nature: Masked Monkeys (1988)	7	6	4.67	0.52
Street Monkeys (2009)	3	3	3.67	0.58
The Natural World: Mandrills: Painted Faces of the Forest (1996)	3	3	3.67	0.58
The Natural World: Wild Women of Viramba (2003)	2	2	3.50	0.71
The World About Us: The Baboons of Gombe (1975)	2	2	3.50	0.71
YouTube or other Internet video	31	-	-	-
Other film not listed	34	-	-	-
Asian Old World Monkeys				
Champions of the Wild: Japanese Macaques (2000)	5	4	3.75	0.96
Dark Days in Monkey City (2009)	3	3	3.67	0.58
Documentary Educational Resources: Macaques (2008)	1	1	3.00	-
Families in the Wild: Monkeys (2001)	1	1	5.00	-
Monkey Kingdom (2015)	15	12	3.75	0.97
Monkey Warriors (2015)	2	2	4.50	0.71
Nature: Monkey Island (1991)	20	14	4.36	0.63
Nature: Mozu the Snow Monkey (1989)	20	16	4.00	1.10
Nature: Mystery Monkeys of Shangri-La (2015)	16	14	4.21	0.89
Nature: Snow Monkeys (2014)	32	26	4.12	0.91
Nature: The Funkiest Monkeys (2014)	7	7	3.43	1.27
Rhesus Play (1977)	3	2	4.50	0.71
Romeo & Juliet: A Monkey's Tale (2005)	2	2	2.00	1.41
Social Behavior of Rhesus Monkeys (1947)	1	1	3.00	-
The Natural World: Meet the Monkeys (2013)	2	2	3.50	0.71
The Natural World: The Temple Troop (1997)	5	2	4.00	1.41
Wildlife on One: Odd Noses of Borneo (1988)	4	4	4.25	1.50
Wildlife on One: Rhesus Monkeys (1991)	1	1	4.00	-
YouTube or other Internet video	27	-	-	-
Other film not listed	15	-	-	-
New World Monkeys				
Before It's Too Late: Mini Monkeys of Brazil (2000)	4	1	5.00	-
Champions of the Wild: Costa Rican Monkeys (1999)	2	2	4.00	0.00
Champions of the Wild: Golden Lion Tamarins (2001)	2	1	4.00	-
Cry of the Muriqui (1982)	6	4	4.00	0.82
Documentary Educational Resources: New World Monkeys (2003)	5	4	3.25	1.50
Howler Monkeys of Barro Colorado Island (1960)	3	3	3.00	0.00
Nature: Gremlins: Faces in the Forest (1998)	29	23	4.35	0.78
Nature: Monkeys on the Edge (1990)	9	8	3.75	0.71
Saved from Extinction: Tamarins Under Siege (2012)	1	1	4.00	-
The Natural World: Three Monkeys (1998)	11	10	4.30	0.67
The Nature of Things: Uakari: Secrets of the Red Monkey (2010)	2	1	5.00	-
Uakari: Secrets of the English Monkey (2009)	2	2	3.50	0.71
YouTube or other Internet video	32	-	-	-
Other film not listed	14	-	-	-

Lemurs, Lorises, and Tarsiers				
Aspects of the Behaviour of the Sifaka (1973)	1	1	3.00	-
Champions of the Wild: Ring-tailed Lemurs (1998)	3	2	3.50	0.71
Documentary Educational Resources: Lemurs of Madagascar (1997)	5	3	4.00	0.00
Documentary Educational Resources: Sifakas of Madagascar (1997)	1	1	3.00	-
Island of Lemurs: Madagascar (2014)	23	17	3.88	0.86
Jungle Babies: Tarsier Tails (2013)	1	1	3.00	-
Lemur Island (2007)	3	3	3.67	0.58
Lemur Street (2007)	1	1	4.00	-
Nature: A Lemur's Tale (1997)	26	22	4.09	0.87
Nature: Madagascar: Island of Ghosts (1991)	12	11	3.82	0.75
Tarsier: The Littlest Alien (2010)	3	2	3.50	0.71
The Natural World: Lemur Blues (2013)	1	1	3.00	-
YouTube or other Internet video	30	-	-	-
Other film not listed	34	-	-	-

Appendix B: Films Not Shown by Instructor

Survey Participants

TABLE B.1 Films not shown or rated by any participants.

Film Title (Year Released)
Various Species
Borneo (1937)
Deadly 60: On a Mission - Uganda (2010)
Documentary Educational Resources: Primate Patterns II (1997)
Zoo Quest to Madagascar (1961)
African Apes
A Kingdom for the Dzanga Gorillas (2007)
Adventure: Gorillas (1953)
Congorilla (1932)
Gorilla Hunt (1926)
Gorillas Revisited (2007)
Kingdom of the Apes: Brother vs. Brother (2014)
Kingdom of the Apes: Clash of Kings (2014)
Mountain Gorilla: A Shattered Kingdom (1996)
The Jungle Adventure: Living Amongst Gorillas (2011)
The World About Us: Stella and the Apes of Asserick (1978)
Tribal Animals: Apes (2003)
Asian apes
Animal World: The Great Red Apes (1970)
Characteristics of Gibbon Behavior (1942)
Di Di's Story (1995)
Rango (1931)
Refugees of the Lost Rainforest (2013)
The World About Us: Orang Utan (1974)
African Old World Monkeys
Baboon Woman (2009)
Catch me a Colobus (1968)
The Natural World: Masked Monkeys (1987)
Wildlife on One: Baboons Rule OK (1982)
Asian Old World Monkeys
Monkey Thieves (2008-11)
Monkeys of Mysore (1964)
The World About Us: There are Monkeys at the Bottom of the Garden (1971)
Wildlife on One: Zen, the Pigtail Monkey (1980)
New World Monkeys

Keepers of the Forest: Saving the Spider Monkey (2000)

Lemurs, Lorises, and Tarsiers

Cheirogaleus major (Lemuridae): Play of Young Animals (1973)

Keepers of the Forest: A Land of Refuge for the Lemur (2000)

Keepers of the Forest: The Last Chance of the Lemurs (2000)

Wild Things with Dominic Monaghan: The Slow Loris (2014)

Wildlife on One: Crowned Lemurs: Blade Runners (1998)

Appendix C: Films Written in by Instructor

Survey Participants

TABLE C.1 Films written in by participants.

Film Title (Year Released)	Showed Film (n)
Lemurs with John Cleese (1999)	22
Baboon Tales (1998)	21
Cousins (2000)	5
Murder in the Troop (2006)	4
Gelada Baboons: The Battles of Braveheart (2002)	2
Jane Goodall's Return to Gombe (2005)	2
The Disenchanted Forest (2002)	2
The Natural World: Jungle Gremlins of Java (2012)	2
In the Wild: Orangutans with Julia Roberts (1998)	2
Gorillas: On the Trail of King Kong (2002)	1
Wildlife on One: Gremlins of the Night (1994)	1
The Nut-cracking Chimpanzees of Tai Forest (1991)	1
Gorillas: Tender Giants (1996)	1
Global Family: The Challenge of the Patas Monkey (1994)	1
Wild Horizons: Dance of the Sifakas (1996)	1

Appendix D: Species-specific Activity Budgets from Primate Documentaries

TABLE D.1 Activity budgets (by percentage) for each primate species that appeared in a sample of 210 primate documentaries. The last column shows the total time each species appeared on screen, in seconds.

Species	Films (N)	Feed (Natural)	Feed (Anthro.)	Rest	Travel	Play	Tool Use	Groom	Agonism	Human- Primate	Multi- Species	Vocal Signal	Mating	Physical Display	Misc.	Total Seconds
<i>Allenopithecus nigroviridis</i>	1			83.8	10.8										5.4	74
<i>Allochrocebus lhoesti</i>	2	40.9		20.5				38.6								44
<i>Alouatta caraya</i>	1			19.2	14.1	3.8				33.3		29.5				78
<i>Alouatta palliata</i>	3	15.9		23.7	41.6	5.3		4.9				3.8	2.6		2.3	1567
<i>Alouatta pigra</i>	4	6.5		28.2	11.4	7.3						46.5				245
<i>Alouatta seniculus</i>	2	34.1		34.1	1.7							30.2				179
<i>Aotus azarae</i>	1	59.1		9.1	31.8											22
<i>Aotus nigriceps</i>	1	59.7		29.0	3.2							8.1				62
<i>Ateles fusciceps</i>	2	34.7		11.1	38.1	3.7		6.4				6.0				683
<i>Ateles geoffroyi</i>	6	18.7		24.4	39.3			8.2			3.5	0.9			4.9	427
<i>Ateles paniscus</i>	1			100.0												10
<i>Avahi laniger</i>	1			35.2	4.6			60.2								108
<i>Brachyteles hypoxanthus</i>	1	56.3		2.6	34.6			6.5								231

Species	Films (N)	Feed (Natural)	Feed (Anthro.)	Rest	Travel	Play	Tool Use	Groom	Agonism	Human- Primate	Multi- Species	Vocal Signal	Mating	Physical Display	Misc.	Total Seconds
<i>Cacajao calvus</i>	10	38.2		18.1	33.4			0.7			0.8			6.8	2.0	1003
<i>Callithrix geoffroyi</i>	3			50.0				40.9				9.1				22
<i>Callithrix jacchus</i>	1	20.2		24.4	8.9	16.1		10.7				10.7		8.9		168
<i>Cebuella pygmaea</i>	5	52.2		12.0	30.8			3.3				1.6				548
<i>Cebus albifrons</i>	1	41.4		31.4	2.9	24.3										70
<i>Cebus capucinus</i>	11	13.1		14.9	26.6	3.6	11.5	9.0	3.7		0.6	5.2	0.5	0.2	11.0	2357
<i>Cercocebus agilis</i>	1	100.0														1
<i>Cercocebus atys</i>	2	30.9		12.8	35.1	1.1		7.4				12.8				94
<i>Cercopithecus ascanius</i>	3	25.2		31.2	31.4			4.8				4.5			2.8	353
<i>Cercopithecus ascanius - mitis</i> hybrid	1	96.2			3.8											106
<i>Cercopithecus campbelli</i>	2	15.0		35.0	15.0						35.0					20
<i>Cercopithecus cephus</i>	3	21.4		32.9	5.7							11.4			28.6	70
<i>Cercopithecus diana</i>	5	16.6		30.8	46.6							6.1				247
<i>Cercopithecus erythrotis</i>	1	100.0														2
<i>Cercopithecus hamlyni</i>	2	1.8		80.2	18.0											111
<i>Cercopithecus mitis</i>	7	20.9	1.7	5.8	13.4	10.9		6.4	0.9	21.4	17.1	0.6			0.9	1401

Species	Films (N)	Feed (Natural)	Feed (Anthro.)	Rest	Travel	Play	Tool Use	Groom	Agonism	Human- Primate	Multi- Species	Vocal Signal	Mating	Physical Display	Misc.	Total Seconds
<i>Cercopithecus mona</i>	1	6.2	53.8	3.1	36.9											65
<i>Cercopithecus neglectus</i>	5	64.0		36.0												50
<i>Cercopithecus nictitans</i>	1	100.0														40
<i>Cercopithecus petaurista</i>	3	25.9		40.7	11.1							22.2				27
<i>Cercopithecus pogonias</i>	3	62.9		28.6				8.6								35
<i>Cercopithecus sclateri</i>	1	100.0														2
<i>Cercopithecus wolffi</i>	1	42.9		57.1												35
<i>Cheirogaleus major</i>	2			89.6	10.4											67
<i>Cheirogaleus medius</i>	2	30.2		40.7	29.1											86
<i>Chlorocebus aethiops</i>	5	19.8	4.9	11.1	21.3	6.1		9.9	11.0	1.2	2.2	3.4	1.4		7.6	3922
<i>Chlorocebus pygerythrus</i>	6	14.1	16.9	24.6	20.4	0.7		6.0			5.6	0.7			10.9	284
<i>Chlorocebus sabaues</i>	2	17.0	18.2	15.1	13.8					17.0	13.8	5.0				159
<i>Colobus angolensis</i>	1	25.3		37.3	31.3			6.0								83
<i>Colobus guereza</i>	14	18.8		23.7	32.8	1.5		9.1	1.6		11.8	0.8				1004
<i>Colobus polykomos</i>	2			17.4	52.2							30.4				23
<i>Daubentonia madagascariensis</i>	8	62.8		1.0	18.9			7.7		9.7						403

Species	Films (N)	Feed (Natural)	Feed (Anthro.)	Rest	Travel	Play	Tool Use	Groom	Agonism	Human- Primate	Multi- Species	Vocal Signal	Mating	Physical Display	Misc.	Total Seconds
<i>Erythrocebus patas</i>	3	28.7		17.8	34.9	2.5		7.5	4.7		1.1	0.5	0.8	0.5	0.9	983
<i>Eulemur coronatus</i>	1			29.4	70.6											34
<i>Eulemur fulvus</i>	15	14.3	0.8	25.4	28.6	0.5		16.4	0.5	4.5	4.3	1.8			2.7	1143
<i>Eulemur macaco</i>	3	8.8		17.0	25.9	1.4		8.2			25.5				13.3	294
<i>Eulemur rubriventer</i>	2	18.8		55.2	18.4			2.9							4.7	277
<i>Galago matschiei</i>	1			100.0												18
<i>Galago moholi</i>	1	10.8		34.2	43.3										11.7	120
<i>Gorilla beringei</i>	29	18.8		30.1	25.1	11.1	0.6	3.2	1.4	4.5		0.8	0.2	3.7	0.6	19984
<i>Gorilla gorilla</i>	19	29.6		23.6	29.5	8.3		0.5	2.0	1.0		1.7	0.5	3.1	0.1	6368
<i>Hapalemur alaotrensis</i>	2	22.4		42.1	35.5											107
<i>Hapalemur aureus</i>	1	37.1		31.4	17.1			14.3								35
<i>Hapalemur griseus</i>	3	47.4		0.9	21.5							30.3				228
<i>Hylobates agilis</i>	4			18.8	37.5						31.3	12.5				16
<i>Hylobates lar</i>	8	7.5		6.5	65.2	6.9		1.7				11.6			0.6	664
<i>Hylobates muelleri</i>	3	43.2		29.5	27.3											44
<i>Indri indri</i>	12	25.4		25.9	18.4	3.9		8.9			1.3	15.5			0.8	1345
<i>Lagothrix lagothricha</i>	3	38.7		18.9	38.3	2.3		1.8								222
<i>Lemur catta</i>	35	16.7	0.7	22.3	31.8	2.9		7.4	4.3	0.3	0.6	3.7	0.6	0.2	8.5	26851
<i>Leontopithecus chrysomelas</i>	3	35.3		58.8								5.9				17

Species	Films (N)	Feed (Natural)	Feed (Anthro.)	Rest	Travel	Play	Tool Use	Groom	Agonism	Human- Primate	Multi- Species	Vocal Signal	Mating	Physical Display	Misc.	Total Seconds
<i>Leontopithecus rosalia</i>	8	13.9	10.2	24.1	28.5	0.7		6.9	0.1		4.8	7.3			3.5	1503
<i>Lophocebus albigena</i>	5	21.6		24.7	28.6			7.1			12.7	5.3				283
<i>Macaca arctoides</i>	1	5.2	9.6	19.1					6.1	55.7		4.3				115
<i>Macaca fascicularis</i>	21	8.6	6.0	21.2	25.3	8.4	5.2	8.9	5.5	6.4	0.9	0.5		0.5	2.7	4502
<i>Macaca fuscata</i>	17	12.6	5.9	21.2	28.2	9.5		9.3	2.8	0.8		2.1	0.5	1.9	5.1	8869
<i>Macaca mulatta</i>	47	3.8	8.6	21.5	34.9	10.7		3.6	6.6	3.4	1.6	1.4	0.2	0.2	3.5	45827
<i>Macaca nemestrina</i>	2	16.0		18.0	29.0				14.0		20.0	3.0				100
<i>Macaca nigra</i>	5	9.6		22.8	21.1	8.7		23.5	7.5	4.9	0.8	1.2				1924
<i>Macaca ochreata</i>	1	4.2	24.2	6.7	46.3	6.3		4.9	2.1		5.3					285
<i>Macaca radiata</i>	1	13.8		22.3	28.8	13.4		8.2	6.2			1.1	3.5		2.6	1048
<i>Macaca sinica</i>	8	10.5	2.6	26.8	30.3	5.5		4.2	9.6	0.2	3.2	1.8	0.5	0.3	4.6	8901
<i>Macaca sylvanus</i>	8	23.3	0.1	13.3	19.0	9.1		18.1	4.3	2.3		1.4	1.1	1.0	7.1	2368
<i>Macaca thibetana</i>	1	4.6	23.1	13.0	13.0					45.4		0.9				108
<i>Mandrillus sphinx</i>	9	20.4		28.6	35.2	0.4		7.8	6.5						1.0	676
<i>Mico chrysoleuca</i>	2	27.1		11.0	20.7			16.1	2.3		6.1	4.6			12.1	1166
<i>Mico humeralifer</i>	2	30.9		25.9	9.4			15.7			1.3	3.1			13.6	382
<i>Mico saterei</i>	1	15.6		12.7	14.6			19.3			13.2	4.2			20.3	212
<i>Microcebus berthae</i>	1				55.8					44.2						52

Species	Films (N)	Feed (Natural)	Feed (Anthro.)	Rest	Travel	Play	Tool Use	Groom	Agonism	Human- Primate	Multi- Species	Vocal Signal	Mating	Physical Display	Misc.	Total Seconds
<i>Microcebus myoxinus</i>	1	42.9			46.8					10.4						77
<i>Microcebus rufus</i>	3		43.1	38.1	18.8											181
<i>Nasalis larvatus</i>	17	20.6	3.3	30.7	30.4	3.1		3.2	0.5			4.8	0.8	0.2	2.5	5565
<i>Nycticebus coucang</i>	1			63.1	8.5					28.4						141
<i>Nycticebus menagensis</i>	1	78.1		21.9												32
<i>Pan paniscus</i>	15	10.3	0.6	31.2	22.4	8.0	1.8	9.7	1.5	0.1		1.6	7.8	2.6	2.4	3129
<i>Pan troglodytes</i>	41	9.3	1.8	17.9	19.3	8.4	13.1	8.6	3.3	1.7	2.9	4.1	0.5	4.7	4.5	36399
<i>Papio anubis</i>	33	14.7		16.6	22.8	5.9		10.9	5.3	1.3	16.6	3.5	0.3		2.2	6375
<i>Papio cynocephalus</i>	3	23.4		14.1	31.2	10.8		9.4	5.2	0.1	0.3	1.6	0.4		3.5	4159
<i>Papio hamadryas</i>	6	6.3		27.6	25.2	2.6		17.2	15.7	0.9	0.1	1.6		1.0	1.8	2490
<i>Papio ursinus</i>	14	23.8	1.7	14.7	28.2	9.9		9.6	5.5	0.5	1.4	1.5	0.9	0.1	2.2	9242
<i>Piliocolobus badius</i>	8	13.4		21.9	20.8	9.6		5.4			12.6	0.9	14.4		0.9	644
<i>Piliocolobus kirkii</i>	6	24.6	6.2	19.9	21.3	8.0		5.9	1.6	5.5	3.0	1.6	0.8		1.7	1015
<i>Piliocolobus rufomitratu</i>	4	1.6		14.1	24.3						49.7	10.3				370
<i>Piliocolobus tephrosceles</i>	1	26.4		7.2	30.8			13.0	3.3			5.1	8.7		5.4	276
<i>Piliocolobus tholloni</i>	1				88.5							11.5				26
<i>Pithecia chryscephala</i>	1			100.0												4

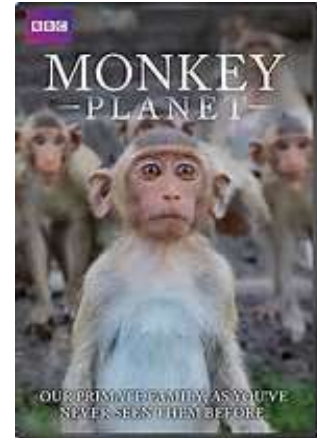
Species	Films (N)	Feed (Natural)	Feed (Anthro.)	Rest	Travel	Play	Tool Use	Groom	Agonism	Human- Primate	Multi- Species	Vocal Signal	Mating	Physical Display	Misc.	Total Seconds
<i>Pithecia irrorata</i>	1	83.6		7.5	9.0											67
<i>Pithecia pithecia</i>	4	61.8		23.5	14.7											34
<i>Pongo abelii</i>	9	26.5		17.4	30.3	6.2	12.1	1.9	1.2	0.4	0.2	1.0	1.3	0.1	1.3	5543
<i>Pongo pygmaeus</i>	26	14.2	6.8	20.9	38.3	4.0	2.9	0.3		9.0	0.1	0.5		0.1	2.9	6484
<i>Presbytis rubicunda</i>	1			100.0												8
<i>Presbytis thomasi</i>	4	44.6		28.8	22.1	2.9		1.7								594
<i>Prolemur simus</i>	4	41.3		25.4	25.2							1.6			6.5	489
<i>Propithecus candidus</i>	1			40.0	15.0			45.0								20
<i>Propithecus coquereli</i>	4	17.6	9.6	36.0	20.8					15.2	0.8					125
<i>Propithecus diadema</i>	2	53.6		27.7	9.0			9.7								487
<i>Propithecus edwardsi</i>	1	64.6		27.7	7.7											65
<i>Propithecus perrieri</i>	1			75.6	24.4											45
<i>Propithecus verreauxi</i>	25	13.4		22.0	51.2	0.9		4.7	1.1	0.6	1.6	0.2			4.2	2642
<i>Pygathrix nemaeus</i>	7	16.3		33.7	49.0							1.0				104
<i>Rhinopithecus bieti</i>	1	18.9		28.4	17.3	11.1		7.1	4.0	0.3		9.3		2.5	1.2	1891
<i>Rhinopithecus roxellana</i>	7	10.2		42.7	38.2			2.8				6.1				246
<i>Saguinus bicolor</i>	2	52.3		16.9							30.8					65

Species	Films (N)	Feed (Natural)	Feed (Anthro.)	Rest	Travel	Play	Tool Use	Groom	Agonism	Human- Primate	Multi- Species	Vocal Signal	Mating	Physical Display	Misc.	Total Seconds
<i>Saguinus fuscicollis</i>	2	37.7		6.5	51.9			2.6				1.3				77
<i>Saguinus imperator</i>	6	16.6		22.9	40.5			3.7				2.9			13.3	481
<i>Saguinus labiatus</i>	3	12.9		25.8	16.1							45.2				31
<i>Saguinus mystax</i>	1	40.0		34.3	25.7											35
<i>Saguinus nigricollis</i>	2	60.0		32.0								8.0				25
<i>Saguinus oedipus</i>	1			100.0												5
<i>Saimiri boliviensis</i>	1			17.1	58.1	19.0							5.7			105
<i>Saimiri oerstedii</i>	2			35.0	10.0						55.0					40
<i>Saimiri sciureus</i>	2	14.3		16.7	69.0											42
<i>Sapajus apella</i>	4	24.1		13.0	8.6		48.1								6.2	162
<i>Sapajus libidinosus</i>	1	33.5		2.8	5.2		50.9								7.5	212
<i>Sapajus nigratus</i>	1	14.3	32.3	25.9	21.7			0.5	4.2			1.1				189
<i>Semnopithecus dussumieri</i>	3	7.9	7.1	20.8	24.8	9.4		5.6	6.4	4.3	1.9	3.9	1.9	2.2	3.9	3623
<i>Semnopithecus entellus</i>	30	2.5	5.8	29.2	34.8	2.1		0.7	1.4	4.4	14.1	4.4			0.6	1949
<i>Semnopithecus priam</i>	1	4.4		17.6	1.5						73.5				2.9	68
<i>Symphalangus syndactylus</i>	4	7.1		11.1	30.0	19.4						32.3				350
<i>Tarsius syrichta</i>	4	19.7		44.8	7.3			0.3	3.1	10.9		2.1	1.3		10.4	1188

Species	Films (N)	Feed (Natural)	Feed (Anthro.)	Rest	Travel	Play	Tool Use	Groom	Agonism	Human- Primate	Multi- Species	Vocal Signal	Mating	Physical Display	Misc.	Total Seconds
<i>Tarsius tarsier</i>	3	15.0		36.2	29.8	2.8		3.3			2.9	9.5			0.4	957
<i>Theropithecus gelada</i>	9	21.0		22.5	18.4	3.2		10.6	14.3			3.0	0.3	0.2	6.5	1513
<i>Trachypithecus cristatus</i>	10	25.7		37.3	32.8	1.5		1.5							1.2	405
<i>Trachypithecus obscurus</i>	2	100.0														12
<i>Trachypithecus phayrei</i>	1	20.2		41.3	7.7			9.6				9.6			11.5	104
<i>Varecia rubra</i>	3	6.1		33.3	60.6											33
<i>Varecia variegata</i>	7	5.3	2.7	37.4	29.3	8.7		6.3		4.3		4.6			1.5	588

Appendix E: Primate Films Database

The Primate Films Database includes information about films featuring wild primates produced since the beginning of the twentieth century. The database contains entries for films (including feature films), TV specials, TV series, and single episodes of series. Currently the Primate Films Database focuses on films in which the main focus is on primates in wild settings, but it may be expanded in the future to include more films focusing on captive primates. The database includes general information about each film such as runtime, the featured species, and the narrator or host. A brief review of each film is also provided which focuses on the film's usefulness in teaching and educational settings.



This database was created specifically as a resource for educators, but it may also be useful to members of the general public with an interest in primatology or nature documentaries. It could also be a valuable tool for researchers in primatology, visual anthropology, and film studies. The database will be updated as new films are released.

Primate documentary films are listed in in reverse chronological order by release year and categorized within the following seven broad taxa:

- [African Apes](#)
- [Asian Apes](#)
- [African Old World Monkeys](#)
- [Asian Old World Monkeys](#)
- [New World Monkeys](#)
- [Lemurs, Lorises, and Tarsiers](#)
- [Various species](#)

Scientific and common names of primate species are in accordance with International Union for Conservation of Nature (IUCN, 2016)

Film ratings are provided on a scale of 1 to 5 based on how useful this film was for teaching purposes (1 = not at all useful; 3 = moderately useful; 5 = very useful). Author ratings are from Crystal Riley Koenig. Instructor ratings are means of individual ratings reported by college anthropology instructors in a survey conducted in 2016 (Riley Koenig, Koenig, & Sanz, 2018). Individual episodes of shows (e.g. *Lemur Street*) were not rated in the survey, so ratings for the overall series were applied to the individual episodes.

The Database will be updated biannually. This pdf was updated on February 17, 2018. The most recent version of the Database can be found at <https://anthropology.artsci.wustl.edu/primate-films-database>

Please direct any questions about this database to:

Crystal M. Riley Koenig, crystalmriley@wustl.edu

Crickette M. Sanz, csanz@wustl.edu

African Apes



Bonobos: Back to the Wild, 2015

Author Rating = 2

Instructor Rating, Mean = 3.6 (SD = 0.55; n = 5)

Runtime: 84 minutes

Species featured: Pan paniscus (Bonobo)

Narrator/Voice Actor: Luke Evans

Film Review: While this film has educational value, it is not pitched at the collegiate level. The language and explanations are more appropriate for younger audiences. For instance, bonobo sexual behaviors are euphemistically referred to as “hugs” or “caresses.” Importantly, this film is

classified by the Internet Movie Database as a drama rather than a documentary. In the spirit of a dramatic film, there is a voice actor speaking in the first person as though he is one of the bonobos. Nevertheless, this film does provide the firsthand perspective of Claudine André, founder of the Lola Ya Bonobo Sanctuary in the Democratic Republic of Congo, as she coordinates the release of orphan bonobos residing in a sanctuary to their natural habitats. There is high-quality footage of bonobos, although most of that footage is in captivity.

Keywords: Conservationist Profile, Sanctuary, Rehabilitation



Virunga: Gorillas in Peril, 2015

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 28 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

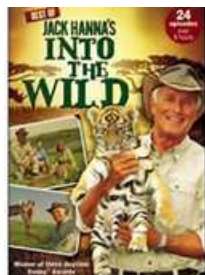
Host: Soledad O'Brien

Film Review: This short film focuses on the making of the 2014 film *Virunga*. Similar to the full-length documentary, this film focus is on the negative impacts that local politics, corruption, rebel groups, and private interests have on mountain gorillas and other wildlife in Virunga National Park. However, this film summarizes the main points of the

original film in 28 minutes (compared to an hour and 40 minutes), which could make it more feasible for teaching purposes. In addition, the conservation message in this film is more direct than in the original film. There is relatively little footage of primates. Educators should beware that this film contains strong language that makes it inappropriate for some educational settings.

Keywords: Conservation, Corruption, Politics

Educator Discretion Advised: Explicit Language



Jack Hanna's Into the Wild: The Great Gorilla Trek, 2014

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 20 minutes

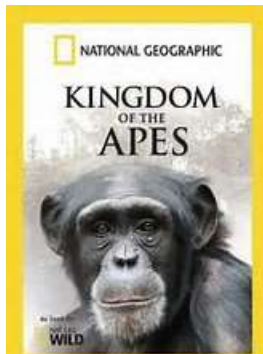
Species featured: Gorilla gorilla (Lowland Gorilla)

Also included: Colobus

Host: Jack Hanna

Film Review: Lowland gorillas in Gabon are the focus of this episode, but much of the footage is of Jack Hanna, interviews with Hanna's family (who accompanied him on this trip), the research camp, and the journey to the field. There is relatively little footage of actual gorillas in the wild, and some footage is replayed several times. However, some interesting points are made about the differences between lowland and mountain gorillas, and the conservation challenges facing lowland gorillas. A brief segment about colobus monkeys at the end of the episode seems mismatched to the rest of the content.

Keywords: Field Conditions, Presenter Profile



Kingdom of the Apes, episode 1, Brother vs. Brother, 2014

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 45 minutes

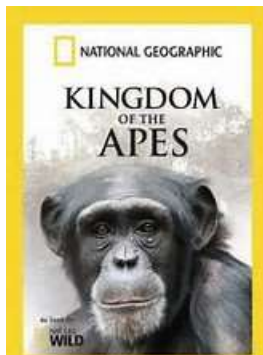
Narrator: unknown

Species featured: Pan troglodytes (Chimpanzee)

Also included: Pan paniscus (Bonobo), Papio anubis (Olive Baboon), Piliocolobus rufomitratu (Tana River Red Colobus)

Film Review: The film features the struggle for dominance among male chimpanzees. Although the narration and soundtrack are somewhat melodramatic, this is a good educational film overall. It is remarkable for having good, quality footage over many years. For instance, footage of an infant chimpanzee is juxtaposed with footage of him later as an alpha male.

Keywords: Dominance, Social Behavior



Kingdom of the Apes, episode 2, Clash of Kings, 2014

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 44 minutes

Species featured: Gorilla beringei (Eastern Gorilla), Gorilla gorilla (Lowland Gorilla)

Also included: Lophocebus albigena (Grey-cheeked Mangabey)

Narrator: unknown

Film Review: This episode focuses mainly on the challenges of maintaining dominance as a silverback gorilla. There is amazing footage of both lowland and mountain gorillas. As with the first episode (*Brother vs. Brother*), the narration and soundtrack can be a little overdramatic.

Keywords: Dominance, Social Behavior



Virunga, 2014

Author Rating = 3

Instructor Rating, Mean = 4.4 (SD = 0.75; n = 20)

Runtime: 100 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

Narrator: none

Film Review: This Netflix documentary is an interesting perspective on how complex politics and private interests undermine the welfare of Virunga National Park, one of the last refuges of the mountain gorilla.

Although impacts on gorillas are mentioned, this is really not a documentary specifically about primates, but rather about social and

political issues that negatively impact primates. The usefulness of this film for educational purposes is limited for several reasons. First, it is difficult to confirm the veracity of some of the material, such as the allegations of illegal behavior by an international oil company. Second, footage of wild primates is very limited. Third, the explicit language used in the film makes it inappropriate for some educational settings.

Keywords: Conservation, Corruption, Politics

Educator Discretion Advised: Explicit Language



Chimpanzee, 2012

Author Rating = 3

Instructor Rating, Mean = 4.08 (SD = 1.16; n = 12)

Runtime: 78 minutes

Narrator: Tim Allen

Species featured: Pan troglodytes (Chimpanzee)

Also included: Lophocebus albigena (Grey-cheeked Mangabey), Piliocolobus rufomitratus (Tana River Red Colobus), Piliocolobus tephrosceles (Ashy Red Colobus)

Film Review: This is a highly entertaining movie, in which chimpanzee life is depicted in ways appropriate for a Disney audience. Mating is never shown or mentioned, and normal events within chimpanzee society such as hunting and death are discussed but not explicitly shown (although events leading up to these events are shown). The storyline is carefully crafted to evoke emotional responses. The main educational value is the high-quality footage of relatively rare behaviors, such as tool use and adoption of an orphaned infant by an adult male. Another thing worth noting, particularly if showing the film to students, is the presence of misleading editing in this film. The film was shot in two locations (Tai Forest, Ivory Coast and Kibale National Park, Uganda), but the film is presented as though everything occurred in one location with two groups of chimpanzees with overlapping home ranges.

Keywords: Adoption, Social Behavior, Tool Use

Educator Discretion Advised: Misleading Content



Uncaged: Rwanda: Mountain Gorillas, 2012

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 23 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

Also included: Colobus angolensis (Angolan Colobus), Papio anubis (Olive Baboon)

Narrator: John Edward Lee

Film Review: Despite the title of this episode, it actually features the wildlife of Rwanda generally and does not focus exclusively on mountain gorillas. The show is aimed at a young, elementary aged audience, as indicated by the overly enthusiastic tone of the narrator and the definitions of simple terms (e.g. “herbivore,” “arboreal”) that periodically appear on the screen. For these reasons, this episode (and the series generally) is not very useful for a college-aged audience.

Keywords: Ecological Setting

Educator Discretion Advised: For Elementary/Primary School Audience



Chimps of the Lost Gorge, 2011

Author Rating = 4

Instructor Rating, Mean = 5 (SD = 0; n = 2)

Runtime: 50 minutes

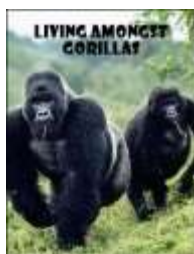
Species featured: Pan troglodytes (Chimpanzee)

Also included: Colobus guereza (Eastern Black-and-white Colobus)

Narrator: Adrian Lester

Film Review: This *Natural World* episode focuses on chimpanzees in the Kyambura Gorge in Uganda. This small population of apes is isolated from other larger populations of chimpanzees and faces a variety of challenges, which the narrator discusses in some detail. This is a useful documentary for teaching students about inbreeding depression, habitat fragmentation, challenges associated with primate conservation, and the importance of genetic diversity. It also provides a good opportunity to familiarize students with a lesser known population of chimpanzees, as many documentaries feature the same populations (i.e. the chimpanzees of Gombe, Kibale, or Tai).

Keywords: Conservation, Gene Flow, Habitat Fragmentation, Small Population,



The Jungle Adventure: Living Amongst Gorillas, 2011

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 45 minutes

Species featured: Gorilla gorilla (Lowland Gorilla)

Narrator: Stephan Benson

Film Review: This documentary is more about the challenges of making a nature film than it is about actual wild gorillas. There is relatively little footage of the gorillas compared to the amount of footage of filmmakers, scientists, and trackers. However, this could still serve a purpose as an educational tool in that it provides an introduction to some of the unforeseen challenges of fieldwork, particularly in Central Africa. Like scientists, filmmakers deal with the challenges of storing expensive, high-tech equipment in extremely humid conditions, some

inconveniences with obtaining clean, safe drinking water, the necessity of anti-malarial medication, and dangers encountered ranging from scorpions to forest elephants.

Keywords: Field Conditions, Filmmaker Profile, Researcher Profile



Life on Location, episode 10: Ninety Nine Percent, 2009

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 10 minutes

Species featured: Pan troglodytes (Chimpanzee)

Narrator: David Attenborough

Film Review: The *Life on Location* series focuses on the making of the BBC series *Life*. This episode follows filmmaker Justine Evans as she tries to get footage of chimpanzees using tools and buttress drumming. The brief episode offers good insight into the challenges of wildlife filmmaking, and into some of the conditions under which chimpanzee researchers work. There is also good footage of chimpanzees, which overlaps with the footage from episode 10 of the *Life* series.

Keywords: Field Conditions, Behavior, Filmmaker Profile



Mystery Gorillas, 2009

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 50 minutes

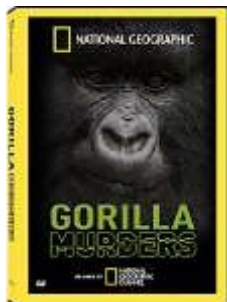
Species featured: Gorilla gorilla (Lowland Gorilla)

Narrator: Lance Lewman

Film Review: It is unfortunate that the film features a National Geographic Explorer/Primatologist (Mireya Mayor) who was visiting the field site, rather than prominently featuring the research team that regularly works in the area. In doing so, the film seemed to attribute important findings about western lowland gorillas to Mayor instead of to the appropriate scientists. It also seemed that Mayor sometimes made errors in judgment regarding her behavior around gorillas. For example, in one scene, she stands very close to a male silverback while discussing his agitation following a recent interaction with another male. When the silverback male charges her, she refers to him as aggressive. This film is of moderate quality with regard to depicting the behavior and ecology of lowland gorillas, and educators should note that there are better resources readily available such as *Kingdom of the Apes: Clash of Kings* and *A Kingdom for the Dzanga Gorillas*.

Keywords: Behavior, Field Conditions, Presenter Profile

Educator Discretion Advised: Unethical Behavior



Gorilla Murders, 2008

Author Rating = 4

Instructor Rating, Mean = 3.86 (SD = 1.35; n = 7)

Runtime: 48 minutes

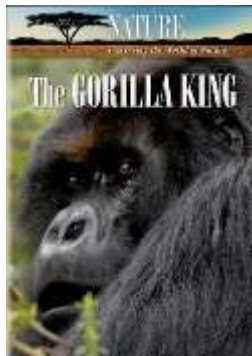
Species featured: Gorilla beringei (Eastern Gorilla)

Narrator: Peter Coyote

Film Review: This documentary focuses on the complex issues that led up to the murder of six gorillas in Virunga National Park in 2007. It is an excellent

resource for demonstrating to students the complexity of primate conservation because so many seemingly unrelated factors are shown to deeply impact the survival and well-being of the mountain gorillas. Among these factors are the trade in illegal charcoal, local politics, corruption, regional instability, genocide, and refugee crisis. This documentary explores each of these issues, and demonstrates how solutions are not straightforward. Although there is not a great deal of footage of wild primates, this is still a good resource for educating students about mountain gorillas and about primate conservation.

Keywords: Conservation, Corruption, Genocide, Local Politics



The Gorilla King, 2008

Author Rating = 5

Instructor Rating, Mean = 4.54 (SD = 0.66; n = 13)

Runtime: 54 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

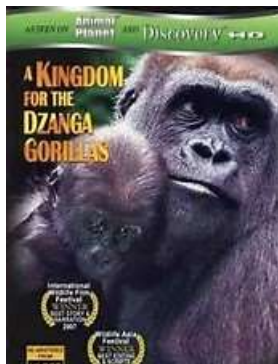
Also included: Cercopithecus kandti (Virungas Golden Monkey)

Narrator: F. Murray Abraham

Film Review: This installment in the *Nature* series focuses on the well-documented life of Titus, a mountain gorilla who was studied for more than 30 years. Modern footage of Titus and his group is supplemented by

historical footage from the 1960s, including early footage of Dian Fossey studying the gorillas. The narrator briefly comments on conservation challenges such as poaching. There is heavy overlap with the footage and storyline from *Kingdom of the Apes: Clash of Kings* (2014). *Clash of Kings* extended the storyline a little further than this episode, but was also more dramatic and sensationalized than *The Gorilla King*.

Keywords: Dominance, Primate Profile, Social Behavior



A Kingdom for the Dzanga Gorillas, 2007

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 51 minutes

Species featured: Gorilla gorilla (Lowland Gorilla)

Also included: Cercocebus agilis (Agile Mangabey)

Narrator: Chloé Cypolletta

Film Review: This video is narrated by primatologist Chloé Cypolletta and relays the process of habituating lowland gorillas in preparation for initiating an ecotourism project in Central African Republic. In addition

to providing insight into the work-intensive process of great ape habituation, it also details some of the conservation threats facing gorillas, including poaching and dwindling population sizes.

Keywords: Ecotourism, Conservation, Field Conditions, Habituation



Cosmos Global: Gorillas, 2007

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 52 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

Narrator: E. Hill

Film Review: The first half of the film is devoted to the expedition's journey to Virunga National Park, through the surrounding villages and in cars and boats. This portion of the video is fairly uneventful, but does provide some context for the location of the National Park. Some conservation challenges (human-gorilla conflict, habitat loss due to agriculture, competition of native wildlife with domesticated livestock) are discussed. The second half of the documentary features mediocre footage of mountain gorillas, which is frequently paired with ethereal music. Much of this footage is of play-fighting interactions between two juveniles. The narrator dramatically characterizes the play-fighting as an aggressive interaction. Overall, this is not a very good educational resource, although the attempt to address conservation challenges is admirable.

Keywords: Conservation, Local Context, Play Behavior



Gorillas Revisited, 2007

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 59 minutes

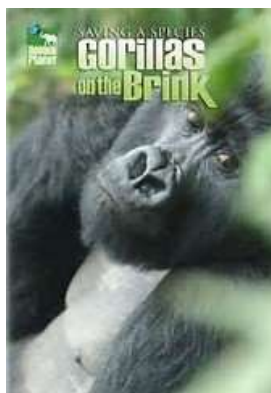
Species featured: Gorilla beringei (Eastern Gorilla)

Narrator: David Attenborough

Film Review: This show follows up with some of the cast and crew (including David Attenborough and Ian Redmond) who filmed a *Life on Earth* episode featuring mountain gorillas in 1979. This documentary contains some great historical footage of Dian Fossey and Attenborough.

Attenborough also provides some candid commentary on the footage, including how it was ill-advised to be in direct contact with wild apes. Discussion of Fossey does not shy away from controversial topics such as her struggles with her health, her murder, and her sometimes extreme anti-poaching efforts (e.g. kidnapping of poachers' children). Overall, this is an excellent summary of mountain gorillas and how the local conservation context has changed from when they were first "discovered" by foreign explorers up to the present.

Keywords: Conservation, Ethics, Presenter Profile, Researcher Profile



Saving a Species: Gorillas on the Brink, 2007

Author Rating = 3

Instructor Rating, Mean = 3 (SD = 0.00; n = 2)

Runtime: 42 minutes

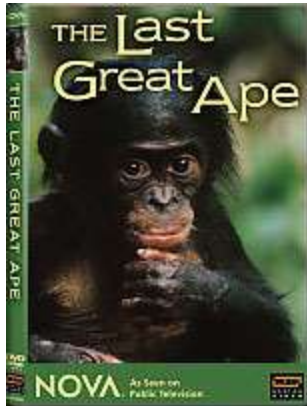
Species featured: Gorilla beringei (Eastern Gorilla)

Hosts: Natalie Portman and Jack Hanna

Film Review: The episode is hosted by Natalie Portman (with some help from Jack Hanna) and is based on a trip she took to Parc National des Volcans in Rwanda. Because her trip was brief, there is relatively little footage of wild mountain gorillas. The footage in the film is good, high-quality footage of interesting behaviors (e.g. the gorillas leaving the

national park to feed in a cultivated eucalyptus grove), but the same footage is used repeatedly throughout the film. Much of the film depicts Portman talking about her experience with the gorillas and the conservation issues they face. She addresses important points accurately, but oversimplifies some issues. These commentaries are fine for educational purposes, but it is a shame that they were at the sake of including more footage of wild mountain gorillas.

Keywords: Behavior, Conservation, Local Context, Presenter Profile



The Last Great Ape, 2007

Author Rating = 4

Instructor Rating, Mean = 5 (SD = 0.00; n = 4)

Runtime: 52 minutes

Species featured: Pan paniscus (Bonobo)

Also included: Pan troglodytes (Chimpanzee)

Narrator: Lance Lewman

Film Review: This PBS Nova special focuses primarily on bonobos, with some coverage of common chimpanzees provided as a contrast. Bonobos are presented as the peaceful, sexual ape in contrast to aggressive common chimpanzees. The most interesting aspect of this documentary was the presentation of how war and civil unrest negatively impacted the bonobos by increasing bushmeat trade (in part by disrupting local agriculture which led to increased bushmeat demand), allowing for more illegal hunting and poaching for the pet trade, and disrupting research activities.

Keywords: Behavior, Bushmeat Trade, Civil Unrest, Conservation, Local Context



Horizon: Chimps are People Too, 2006

Author Rating = 1

Instructor Rating, Mean = 3 (SD= N/A; n = 1)

Runtime: 49 minutes

Species featured: Pan troglodytes (Chimpanzee)

Also included: captive Pan paniscus (Bonobo)

Host: Danny Wallace

Film Review: This documentary has very little educational value. The host spends the majority of his time making the sensational argument that chimpanzees are people. He dismisses the research and conclusions of prominent chimpanzee researchers who are unwilling to agree with his extraordinary claim, but does not provide any evidence to support his claims. He also misuses the word “prove,” and oversimplifies scientific findings (e.g. chimpanzees and humans sharing 99% of our DNA). There are some brief clips that could be extracted and shown for educational purposes. For instance, there is good footage and interesting discussion of the training of entertainment chimpanzees in Hollywood, and footage of captive chimpanzees participating in cooperation and cultural transmission experiments. The relatively brief footage of chimpanzees in the wild is unremarkable.

Keywords: Captive Research, Ethics of Primates in Entertainment

Educator Discretion Advised: Poor Quality Science, Sensational



Jane Goodall's Return to Gombe, 2005

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 50 minutes

Species featured: Pan troglodytes (Chimpanzee)

Narrator: Jon Patrick Walker

Many documentaries about Jane Goodall's work focus on her early days as a

young scientist at Gombe. This program provides an update, focusing mainly on Goodall's current work as a conservationist. Footage includes Goodall speaking to a variety of audiences and interacting with rescued chimps at Jane Goodall Institute's Tchimpounga sanctuary. While the film touches on many standard conservation problems (poaching, bushmeat, habitat loss), there is also coverage of less frequently discussed issues, such as the ethical conundrum of using chimpanzee conservation funds to care for orphaned rescue chimpanzees that can never be reintroduced to the wild instead of using funds to preserve habitat. Another focus of this film is Goodall's return to Gombe to check in on the chimpanzees, who are undergoing a tumultuous change in leadership. There is excellent footage of a shift in power as long-time alpha male Frodo becomes ill and is deposed by several adult males. The DVD also includes a featurette called "On the Road with Jane Goodall," which digs deeper into her ongoing speaking tour and her work with the Roots & Shoots program.

Keywords: Conservation, Dominance, Researcher Profile, Sanctuary

**Gorillas:
Primal
Contact**

Gorillas: Primal Contact, 2002

Author Rating = 5

Instructor Rating, Mean = 3 (SD = N/A; n = 1)

Runtime: 92 minutes

Species featured: Gorilla beringei (Eastern Gorilla), Gorilla gorilla (Lowland Gorilla)

Narrator: Martin Sheen

Film Review: Written and produced by Cynthia Moses, this detailed documentary examines gorilla history in great detail. Various experts discuss gorilla behavior, physiology, ecology, and conservation; the history of gorillas in captivity; the beginnings of wild gorilla research; the evolutionary history of gorillas; and the complicated history of gorillas in film, including popular films like *King Kong* and early nature documentaries like *Congorilla* that largely focused on gorilla hunts. The experts tackle some controversial topics (e.g. abysmal zoo conditions in the early twentieth century; Dian Fossey's sometimes radical conservation tactics) with surprising candor. This is an excellent resource on gorillas and is worth showing in its entirety.

Keywords: Behavior, Captivity, Conservation, Ecology, Ethics Historical Footage,



Jane Goodall's Wild Chimpanzees, 2002

Author Rating = 4

Instructor Rating, Mean = 3.89 (SD = 0.80; n = 38)

Runtime: 42 minutes

Species featured: Pan troglodytes (Chimpanzee)

Also included: Papio anubis (Olive Baboon)

Narrator: Marc Strange

Film Review: This film was originally released on IMAX, so some of the filming techniques were obviously intended for a large screen and seem excessive on a small screen. This film provides a good, if somewhat superficial overview of Jane Goodall's career. The film begins with historical footage of Dr. Goodall in the 1960s, covers some of her most significant discoveries, and continues to cover her more recent work with conservation via the Jane Goodall Institute and the Roots & Shoots program. The DVD has some bonus features that could be useful for instructional purposes, including chimpanzee trivia, and a behind the scenes segment

on the process of making an IMAX film in the wild. While this program provides some more recent information, the older *Among the Wild Chimpanzees* (1984) provides a more detailed and insightful overview of Dr. Goodall's work.

Keywords: Behavior, Conservation, Historical Footage, Outreach, Researcher Profile



Chimpanzees Today, 2001

Author Rating = 3

Instructor Rating, Mean = 3 (SD = N/A; n = 1)

Runtime: 36 minutes

Species featured: Pan troglodytes (Chimpanzee)

Also included: various primates in captivity

Narrator: Anne Zeller

Film Review: Anne Zeller's video about chimpanzees focuses largely on captive chimpanzees (mostly *Pan troglodytes*, with some brief comments on *Pan paniscus*). The film discusses the

use of chimpanzees in biomedical research, as pets, and in the entertainment industry.

Chimpanzees are also shown in sanctuaries, zoos, and the wild. She discusses some of the challenges facing wild populations, including poaching and habitat loss. This is a good overview of the variety of conditions under which captive chimpanzees live, but only briefly touches on wild chimpanzees. As with most Documentary Educational Resources videos, the narration is filled with valuable educational information, but the footage is largely unimpressive.

Keywords: Captive Settings, Conservation



Chimpanzee Grooming as Social Custom, 2000

Author Rating = 4

Instructor Rating, Mean = N/A

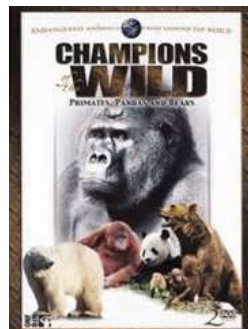
Runtime: 9 minutes

Species featured: Pan troglodytes (Chimpanzee)

Narrator: Linda Marchant

Film Review: This video focuses almost exclusively on chimpanzee grooming with some brief footage of play and tool use. There is also discussion of the variation in grooming customs across chimpanzee communities. Because of the in-depth coverage of grooming and the detailed analysis (e.g. differentiating self-grooming from self-scratching), this would be a good resource for someone planning to undertake their own data collection project, e.g. on captive chimpanzees. The brevity of this film makes it easy to incorporate into a lesson on grooming or culture.

Keywords: Culture, Grooming, Social Behavior



Champions of the Wild: Chimpanzees of Uganda, 1999

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 23 minutes

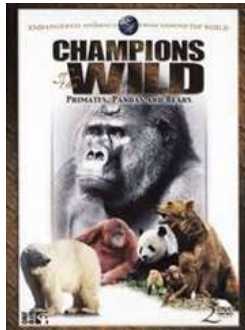
Species featured: Pan troglodytes (Chimpanzee), Piliocolobus badius (Western Red Colobus)

Also included: Cercopithecus ascanius (Red-tailed Monkey), Colobus guereza (Eastern Black-and-white Colobus)

Narrator: Andrew Gardner

Film Review: This episode focuses on the primates of Kibale Forest in Uganda, with special emphasis on the chimpanzees. This is an excellent resource for introducing conservation issues because the narrator (Andrew Gardner) and the featured primatologist (Colin Chapman) discuss many of the complexities of primate conservation. For example, they address how deforestation impacts different primate species in diverse ways and why national parks are not always the safe havens for wildlife that people often believe them to be. There are some concerning oversimplifications and anthropomorphic statements about primate behavior, but these are outweighed by the many positive aspects of this episode.

Keywords: Conservation, Habitat Destruction, Researcher Profile



Champions of the Wild: Gorillas, 1999

Author Rating = 4

Instructor Rating, Mean = 3.25 (SD = 1.26; n = 4)

Runtime: 25 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

Narrator: Andrew Gardner

Film Review: This episode focuses on Pascale Sicotte's work with mountain gorillas, during a period following a civil war in Uganda. Historical footage of Dian Fossey, mountain gorillas, and the Karisoke Research Center is also included. As with the other episodes in this series, the narrator (Andrew Gardner) and featured primatologist (Pascale Sicotte) also address the numerous conservation challenges facing the gorillas.

Keywords: Civil Unrest, Conservation, Historical Footage, Researcher Profile



Great Apes, 1999

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 56 minutes

Species featured: Gorilla beringei (Eastern Gorilla), *Pan troglodytes* (Chimpanzee)

Also included: Pan paniscus (Bonobo), *Piliocolobus badius* (Western Red Colobus)

Narrator: Lynn Sherr

Film Review: This film provides a detailed historical look at mountain gorillas and chimpanzees, with some additional brief commentary on bonobos. Orangutans and lowland gorillas are left out of this film, making it an incomplete examination of the great apes. There is some useful educational content, including historical footage of Dian Fossey and Jane Goodall in the early days of their research, as well as some clips from early depictions of great apes in film. One of those clips is the disturbing capture of two infant gorillas from *Congorilla* (1932). However, much of this content is also available elsewhere, so there is not much unique about this film. One drawback is that the narrator paints an overly rosy picture of the life of the Gombe chimpanzees, frequently talking about them as undisturbed, and saying that their future is bright. This seems out of line with how conservationists would characterize the situation. The film *Gorillas: Primal Contact* (2002) provides much of the same information as this film, and would make a more educational alternative.

Keywords: Behavior, Conservation, Historical Footage, Human-Wildlife Interface
Educator Discretion Advised: Animal Cruelty, Graphic Capture of Gorilla



Gorillas: Tender Giants, 1996

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 55 minutes

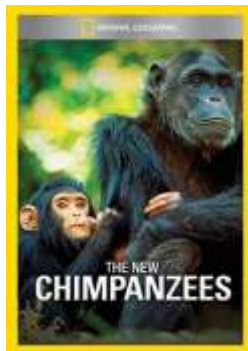
Species featured: Gorilla beringei (Eastern Gorilla)

Also included: Gorilla gorilla (Lowland Gorilla)

Narrator: Elliott Gould

Film Review: This film mostly focuses on eastern lowland gorillas, with some brief commentary and footage of western lowland gorillas. Throughout the film, gorillas are depicted as living in pristine habitats, and the only conservation threats discussed are poachers and snare traps. Of course, the reality for most gorilla populations includes myriad threats beyond poaching. The film primarily follows the dynamics of one eastern lowland gorilla family. There is excellent footage of gorillas and other animals feeding in a bai. Also, the narrator offers a rare insight into how gorillas are portrayed in popular media when he mentions that gorillas are rarely aggressive because they do not really have time to waste on aggressive interactions, as they must spend the majority of their time eating.

Keywords: Behavior, Feeding Ecology



The New Chimpanzees, 1995

Author Rating = 4

Instructor Rating, Mean = 4.48 (SD = 0.68; n = 40)

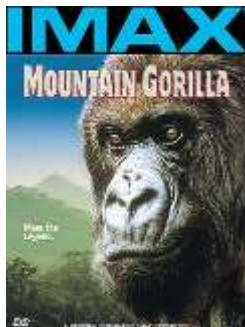
Runtime: 52 minutes

Species featured: Pan paniscus (Bonobo), Pan troglodytes (Chimpanzee)

Narrator: Linda Hunt

Film Review: Produced by Cynthia Moses, this film provides a good overview of wild behavior of common chimpanzees and bonobos. The main focus of the film is on the behaviors that make these species unique, such as various types of tool use for chimpanzees and sexual behavior as a social tool in bonobos. The film includes footage from study sites across the range of chimpanzees, and interviews with various chimpanzee experts, including Jane Goodall, Christophe and Hedwige Boesch, Craig Stanford, and others. A highlight of the film is Richard Wrangham eating safari ants.

Keywords: Behavior, Researcher Profile



Mountain Gorilla, 1992

Author Rating = 4

Instructor Rating, Mean = 3.88 (SD = 0.83; n = 8)

Runtime: 39 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

Narrator: Rebecca Jenkins

Film Review: This is one of the most realistic portrayals of primate life available. Mountain gorillas are shown engaging in their most common

behavior patterns: eating and resting. Some social tension is depicted surrounding a maturing male who is challenging the silverback, but this is presented in a straightforward manner and not overly dramatized as in other films. This film also accurately presents the conservation context of remaining mountain gorilla habitat as being surrounded by people and farmland, rather than romanticized as remote and pristine. As with many other primate films, mating and sexual behavior are not mentioned, providing a slightly incomplete picture of mountain gorilla behavior, especially concerning male competition. Although the narration can be soporific at times, this film is a worthwhile educational resource for creating realistic impressions of typical free-ranging gorilla behavior.

Keywords: Behavior, Conservation Context, Ecology



The Nut-Cracking Chimpanzee of Tai Forest, 1991

Author Rating = 3s

Instructor Rating, Mean = N/A

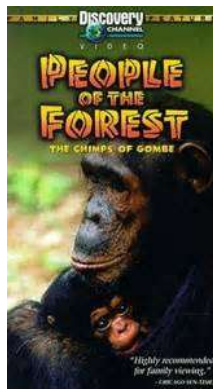
Runtime: 27 minutes

Species featured: Pan troglodytes (Chimpanzee)

Narrator: Christophe Boesch

Film Review: As the title suggests, this film is a close examination of one type of chimpanzee tool use at one field site. There is great detail about the ontogeny of tool use, and the social factors that affect tool and food sharing. Other tool use contexts (e.g. termite fishing) and other tool use sites (e.g. Gombe) are not discussed. This would be a good resource for undergraduates or graduate students interested in tool use, but would be most useful if accompanied by information about other tool use contexts.

Keywords: Social Behavior, Tool Use



People of the Forest: The Chimps of Gombe, 1989

Author Rating = 4

Instructor Rating, Mean = 3.64 (SD = 0.84; n = 14)

Runtime: 94 minutes

Species featured: Pan troglodytes (Chimpanzee)

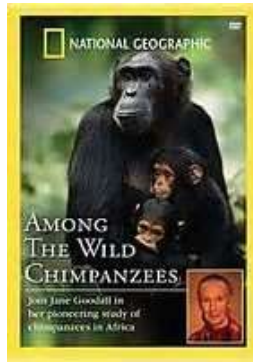
Also included: Papio anubis (Olive Baboon)

Narrator: Donald Sutherland

Film Review: This is an excellent, in-depth depiction of the Gombe chimpanzee population, and specifically one adult female, Flo, and her descendants. The footage in this documentary spans decades and the narration offers insights gained from Jane Goodall's career spent carefully studying these apes. Some noteworthy events covered in the film include a polio epidemic that killed some chimpanzees and partially paralyzed others, and the death of a juvenile who refused to leave his nest after the death of his mother. It is concerning that the chimpanzees are presented as living free from human influence, and conservation issues are not explicitly addressed.

Nevertheless, this is still a worthwhile educational film.

Keywords: Behavior, Disease, Mourning, Primate Profile



Among the Wild Chimpanzees, 1984

Author Rating = 5

Instructor Rating, Mean = 4.22 (SD = 1.09; n = 9)

Runtime: 53 minutes

Species featured: Pan troglodytes (Chimpanzee)

Also included: Papio anubis (Olive Baboon)

Narrator: Barry Paine

Film Review: This National Geographic special is a great overview of Jane Goodall's work establishing and maintaining the long term study of chimpanzees at Gombe. The interviews with Goodall provide interesting

insight into some of her most surprising observations (such as infanticide and cannibalism) and what she wishes she had done differently in establishing the site (for example, maintaining greater separation from the chimps). Although released several decades ago, this film is still a great educational resource for learning about chimpanzee behavior and an important piece of anthropological history. The educational value of this film would be enhanced by educators discussing relevant research advances made in recent years.

Keywords: Behavior, Conservation, Researcher Profile

Hierarchy and the Alpha Male

Jane Goodall: Studies of the Chimpanzee: Hierarchy and the Alpha Male, 1977

Author Rating = 3

Instructor Rating, Mean = 3.92 (SD = 0.79; n = 12)

Runtime: 22 minutes

Species featured: Pan troglodytes (Chimpanzee)

Narrators: Jane Goodall and Lary Lewman

Film Review: This video benefits from good historical footage and from Jane Goodall's narration with long-term knowledge of these chimpanzees. In this case, she provides a long-term chronology of the alpha male status in the main study group at the Gombe research site.

However, recent films (e.g. *Kingdom of the Apes: Brother vs. Brother*, 2014) provide a more nuanced understanding of dominance hierarchies and social dynamics in wild chimpanzees.

There is some overlap with footage from *Miss Jane Goodall and the Wild Chimpanzees*.

Keywords: Dominance, Social Behavior

Introduction to Chimpanzee Behavior

Jane Goodall: Studies of the Chimpanzee: Introduction to Chimpanzee Behavior, 1977

Author Rating = 3

Instructor Rating, Mean = 3.92 (SD = 0.79; n = 12)

Runtime: 22 minutes

Species featured: Pan troglodytes (Chimpanzee)

Narrators: Jane Goodall and Lary Lewman

Film Review: This documentary provides relatively superficial coverage of chimpanzee behavior. Much of the footage in this film is from *Miss Jane Goodall and the Wild Chimpanzees*, which is a longer and more detailed examination of Goodall's research. The main highlights of this video are Goodall's narration (along with Lary Lewman) and the historical footage of Jane Goodall being interviewed alongside Louis Leakey.

Keywords: Behavior, Historical Footage, Researcher Profile

Feeding
and Food
Sharing

Jane Goodall: Studies of the Chimpanzee: Feeding and Food Sharing, 1976

Author Rating = 4

Instructor Rating, Mean = 3.92 (SD = 0.79; n = 12)

Runtime: 23 minutes

Species featured: Pan troglodytes (Chimpanzee)

Also included: Papio anubis (Olive Baboon)

Narrators: Jane Goodall and Lary Lewman

Film Review: This educational video focuses on the feeding habits of chimpanzees, with a special emphasis on food sharing. The video is very specific to those behaviors and as such, would be highly useful for teaching a segment specifically on feeding ecology or social aspects of feeding. Jane Goodall specifically describes some of the unintended effects of provisioning the Gombe chimpanzee population. The footage is not as high-quality as more recent films, but Jane Goodall's personal insights into the individual chimpanzees and the research approaches compensate for any shortcomings of the film quality.

Keywords: Feeding Behavior, Foraging, Provisioning, Researcher Profile

Infant
Development

Jane Goodall: Studies of the Chimpanzee: Infant Development, 1976

Author Rating = 4

Instructor Rating, Mean = 3.92 (SD = 0.79; n = 12)

Runtime: 25 minutes

Species featured: Pan troglodytes (Chimpanzee)

Narrators: Jane Goodall and Lary Lewman

Film Review: This video discusses patterns of infant development in chimpanzees. There are a few references to the development of human infants, but no comparisons to other non-human primates. As such, this video would be most useful if teaching specifically about chimpanzee infant development and not primate development more generally. The footage of infants and mothers is exceptional, and the long-term study of the Gombe chimpanzee population allows for interesting insights into infant development and parenting styles.

Keywords: Infant Development, Mother-Infant Interactions, Parenting Behavior

Tool Using

Jane Goodall: Studies of the Chimpanzee: Tool Using, 1976

Author Rating = 4

Instructor Rating, Mean = 3.92 (SD = 0.79; n = 12)

Runtime: 23 minutes

Species featured: Pan troglodytes (Chimpanzee)

Also included: Papio anubis (Olive Baboon)

Narrators: Jane Goodall and Lary Lewman

Film Review: This educational video focuses on tool use in the Gombe chimpanzee population. This film provides a good introduction to tool use and the types of tool behaviors exhibited by wild chimpanzees. Some specific behaviors featured are termite fishing, ant dipping, using leaf sponges to gather water, incorporating objects (e.g. rocks, kerosene cans) into physical displays, and attempting to use a tool to solve a problem. The footage of tool use is good quality for this time period, and Goodall's narration provides insight into specific individuals, their behaviors, and social relationships.

Keywords: Behavior, Tool Use



Gorilla, 1974

Author Rating = 4

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 52 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

Narrator: David Niven

Film Review: This special from the *Survival Anglia* series focuses on mountain gorillas in the Democratic Republic of Congo (previously Zaire). The documentary prominently features Belgian conservationist Adrien Deschryver and one

group of gorillas that he studied extensively. In addition to his studies of wild gorillas, Deschryver also attempted to rehabilitate an orphaned gorilla infant for later reintroduction into the wild. A notable scene shows Deschryver carrying the infant gorilla in the forest. After coming too close to a gorilla group, he is charged by a silverback and drops the infant on the ground. The silverback picks up the infant and carries her back to his group. The infant lives with the group for 10 days before passing away.

Keywords: Behavior, Conservationist Profile, Reintroduction



Vocalizations of Wild Chimpanzees, 1971

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 36 minutes

Species featured: Pan troglodytes (Chimpanzee)

Narrator: none

As the title suggests, this film is very specific and only addresses chimpanzee vocalizations. Other behaviors (e.g. aggression, play) are included only insofar as they are relevant to vocalizations. This is a very straightforward film that goes through the types of

chimpanzee vocalization one by one. A text screen introduces a vocalization type, and then examples of vocalizations follow. There is no narration. This film was a collaboration between Jane Goodall, Peter Marler (who recorded sound), and Hugo van Lawick (who recorded video). Because of the narrow focus of this video, the instructional applications are limited, but this would be a good resource for a student planning to undertake research on chimpanzees, either in the field or in captivity.

Keywords: Aggression, Behavior, Communication, Play



Miss Jane Goodall and the Wild Chimpanzees, 1965

Author Rating = 4

Instructor Rating, Mean = 3.86 (SD = 0.90; n = 7)

Runtime: 49 minutes

Species featured: Pan troglodytes (Chimpanzee)

Narrator: Orson Welles

Film Review: This documentary features remarkable historical footage of Goodall, her original camp, and the Gombe chimpanzees. The narration includes some oversimplifications, and the background music can be distracting. Nevertheless, this is

a valuable educational and historical resource. It shows the early years of Goodall establishing the site before it became a world-renowned research center.

Keywords: Behavior, Field Conditions, Historical Footage, Researcher Profile



The Mountain Gorilla, 1954

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 15 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

Narrator: C. R. Carpenter

Written and produced by George Schaller, this brief examination of mountain gorillas is a piece of primatological history, as it summarizes the relatively small amount of information that scientists knew about these animals in the 1950s. Of course, much has been learned in the more than 60 years that have followed, rendering much of the content of this video incorrect by today's standards. As one would expect for footage filmed in the wild in 1950, the film is shaky and out of focus. A more contemporary account of mountain gorillas such as *The Gorilla King* (2008) would likely be more useful for instructional purposes.

Keywords: Behavior, Ecology



Congorilla, 1932

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 66 minutes

Species featured: Gorilla beringei (Eastern Gorilla)

Narrator: Martin Johnson

Film Review: The film's main focus is on Central Africa in general, not specifically on gorillas. The footage of gorillas is limited and it is likely that some scenes were staged given the framing and the unlikely events portrayed in the film (e.g. a gorilla group simultaneously abandoning two infants). In the end, Martin and Osa Johnson's safari captures two infant

gorillas to take back to the U.S.A. The footage of the gorilla capture is disturbing. The film includes footage of other primates (a colobus monkey, a chimpanzee, and a gorilla) kept in inhumane conditions at the Johnsons' camp. Educators must be aware that indigenous people featured in the film are mocked, disparaged, and dehumanized by the narrator.

Keywords: Historical Perspectives

Educator Discretion Advised: Animal Cruelty, Graphic Capture of Gorilla, Racism, Staged Footage



Experiments in Ape Intelligence, 1914

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 5 minutes

Narrator: N/A

Species featured: captive Pan troglodytes (Chimpanzee), captive Gorilla gorilla (Lowland Gorilla)

Film Review: This film consists of Wolfgang Köhler's classic footage of captive apes completing various cognitive tasks to examine ape intelligence. This century-old video could be useful for providing historical context, but current videos like *Ape Genius* (2008) provide more comprehensive coverage of ape intelligence.

Keywords: Historical Perspectives

Asian Apes



The Last Orangutan Eden, 2015

Author Rating = 4

Instructor Rating, Mean = 3.87 (SD = 0.92; n = 15)

Runtime: 53 minutes

Species featured: Pongo abelii (Sumatran Orangutan)

Also included: Presbytis thomasi (Thomas's Langur)

Narrator: Chris Morgan

Film Review: This documentary is part of the *Nature* series on PBS. The episode covers many of the fundamental aspects of orangutan life (foraging, nest construction, infant-rearing), but does not mention mating. The film also includes an in-depth coverage of the conservation challenges facing primates, and in particular Sumatran orangutans (e.g. loss of habitat for palm oil plantations and the pet trade). In addition to excellent footage of wild orangutans, the film crew also visited an orangutan sanctuary and discussed the challenging process of reintroduction.

Keywords: Behavior, Conservation, Habitat Destruction, Pet Trade, Reintroduction, Sanctuary



Refugees of the Lost Rainforest, 2013

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 29 minutes

Species featured: Pongo abelii (Sumatran Orangutan)

Narrator: John Nettles

Film Review: Sumatran orangutans, both in captivity and in the wild, are featured in this documentary. Narration provides some reasons that these orangutans are endangered, including habitat loss, slash-and-burn agriculture, clearing of land for palm oil plantations, the pet trade, and others. In addition, the

narrator and on-camera scientists discuss some strategies for conservation, including assessing habitat loss using new technologies such as drones, rehabilitation and re-release of captive orangutans, and captive breeding programs. There is excellent footage of a captive orangutan giving birth naturally and another captive orangutan birth via Caesarean section.

Keywords: Behavior, Birth, Conservation, Habitat Destruction, Pet Trade, Reintroduction



Green, 2012

Author Rating = 4

Instructor Rating, Mean = 4.5 (SD = 0.71; n = 6)

Runtime: 48 minutes

Species featured: Pongo abelii (Sumatran Orangutan)

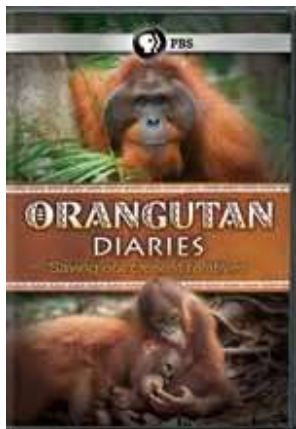
Also included: Macaca fascicularis (Long-tailed Macaque), Presbytis thomasi (Thomas's Langur), Symphalangus syndactylus (Siamang)

Narrator: none

Film Review: This movie is a powerful statement about the impact of deforestation on the ecology of Indonesia, with a special focus on the devastating impacts for

orangutans. This is an artistic film without any narration, and with sharply contrasting images frequently juxtaposed with one another. This could be an excellent and very educational film for introducing students to primate conservation. When showing this film, it would also be useful to provide students with some context about local people and the decisions that they face when it comes to primate conservation versus land development, because this film could be perceived as unilaterally biased.

Keywords: Attempted Rescue and Rehabilitation, Conservation, Ecology, Habitat Destruction



Orangutan Diaries, 2012

Author Rating = 4

Instructor Rating, Mean = 3.33 (SD = 1.53; n = 3)

Runtime: approx. 60 minutes per episode

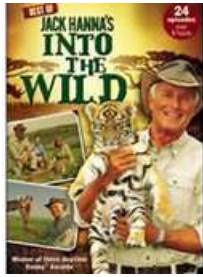
Species featured: Pongo pygmaeus (Bornean Orangutan)

Hosts: Steve Leonard and Michaela Strachan

Film Review: This series focuses on the work of the Borneo Orangutan Survival Foundation, and more specifically the daily lives of more than 600 orangutans living in a sanctuary supported by the Foundation. The first episode includes footage of the reintroduction of 35 orangutans from the sanctuary into the wild. The episode also shows a rescue team darting and relocating two orangutans that were raiding a local rubber

plantation and drinking the sap from their harvest. Given that the focus of the show is primarily on captive orangutans rather than wild or free-ranging primates, reviews of individual episodes will not be provided here. However, this series (including 11 episodes in all) may be worth sharing with students interested specifically in orangutan conservation or primate reintroduction.

Keywords: Conservation, Human-Wildlife Interface, Reintroduction, Sanctuary



Jack Hanna's Into the Wild: Orangutan Orphans, 2010

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 20 minutes

Host: Jack Hanna

Species featured: Pongo pygmaeus (Bornean Orangutan)

Film Review: This episode focuses on the orphaned orangutans at the Sepilok Orangutan Rehabilitation Center in Borneo. The only free-ranging orangutans shown are those that have been released from the center and are still provisioned at a feeding platform. The episode presents ecotourism as an effective conservation tool, but neglects to mention any negative effects that ecotourism can have on wildlife. Despite its shortcomings, this film could be of interest to students interested in orangutan rehabilitation, with recognition that the depiction is idyllic.

Keywords: Ecotourism, Provisioning, Sanctuary



The Disenchanted Forest, 2002

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 52 minutes

Narrator: Brooke Shields

Species featured: Pongo pygmaeus (Bornean Orangutan)

Film Review: This documentary focuses mostly on orangutans living in rehabilitation centers, being prepared for a return to life in the wild. Experts (including Anne Russon, Willie Smits, and Carel van Schaik) weigh in on the diverse challenges of orangutan rehabilitation and conservation. The discussion of orangutan conservation challenges includes habitat loss and fragmentation, logging, the illegal pet trade, conflict with humans, illegal mining leading to habitat degradation, and habitat alteration leading to increased susceptibility to forest fires. Carel van Schaik also provides some interesting commentary on how population decline and other disruptions lead to cultural erosion of orangutan traditions.

Keywords: Conservation, Pet Trade, Rehabilitation, Sanctuary



Wild Asia: Realm of the Red Ape, 2002

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 52 minutes

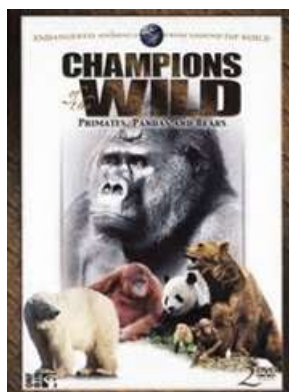
Species featured: Pongo abelii (Sumatran Orangutan)

Also included: Presbytis thomasi (Thomas's Langur), Symphalangus syndactylus (Siamang)

Narrator: unknown

Film Review: This documentary focuses broadly on the ecology of Sumatra. Although the focus is general, there is substantial coverage of Sumatran orangutans and some other primates in the region. Although not remarkable with regard to coverage of wild primates, this film may be of interest to those looking for footage of habitats in Sumatra.

Keywords: Behavior, Ecological Setting



Champions of the Wild: Orangutans, 1999

Author Rating = 3

Instructor Rating, Mean = 3.33 (SD = 0.58; n = 3)

Runtime: 25 minutes

Species featured: Pongo pygmaeus (Bornean Orangutan)

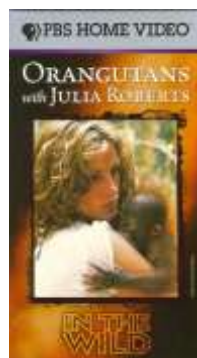
Narrator: Andrew Gardner

Film Review: This *Champions of the Wild* episode features Birutė Galdikas' work with orangutans in Tanjung Puting National Park in Indonesian Borneo. There is some brief but interesting historical footage of Galdikas' early days doing fieldwork. However, much of the footage focuses on captive orangutans, including those being rehabilitated at

Camp Leakey. As such, this episode has less detailed information about wild primates than do the other primate episodes in this series. Information about the plight of orangutans is accurate, but Galdikas' comments comparing the orangutans' situation with that of Jewish people during the Holocaust are inappropriate.

Keywords: Conservation, Historical Footage, Research Profile, Sanctuary

Educator Discretion Advised: Offensive Commentary



In the Wild: Orangutans with Julia Roberts, 1998

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 56 minutes

Species featured: Pongo pygmaeus (Bornean Orangutan)

Host: Julia Roberts

Film Review: This film follows Julia Roberts on a trip to Borneo, where she goes to see orangutans both in the wild and in captivity at Birutė Galdikas' camp. There is some good commentary on the conservation challenges that

orangutans face, ranging from habitat loss and fragmentation to poaching and

the pet trade. However, the overall focus is primarily on Julia Roberts rather than the orangutans. In addition, there are some inappropriate interactions with the orangutans that diminish the educational value of this film. In one instance, Julia Roberts allows a young, supposedly wild orangutan to crawl onto her shoulders. In another instance, she approaches a large adult male much too closely and he grabs her, clearly frightening her. A production assistant intervenes to help. *The Last Orangutan Eden* (2015) or *Refugees of the Lost Rainforest* (2013) are better resources for teaching about orangutans.

Educator Discretion Advised: Inappropriate Interaction with Wildlife



Orangutans: Just Hangin' On, 1997

Author Rating = 4

Instructor Rating, Mean = 4.2 (SD = 0.84; n = 5)

Runtime: 60 minutes

Species featured: Pongo pygmaeus (Bornean Orangutan)

Narrator: George Page

Film Review: This installment from the *Nature* series mostly features captive orangutans. The captive footage is excellent, and includes the first video

recording of a captive orangutan birth. There is also coverage of a young orangutan undergoing open-heart surgery and orangutans working with lexigrams. The last third of this video focuses on the elaborate process of introducing a large number of rehabilitated orangutans back into the wild. The logistics involved (including suspending boxes of orangutans beneath a helicopter) are impressive and interesting to watch. Although the footage of actual wild orangutans is limited, this is an excellent resource for introducing orangutans and discussing some of the conservation issues that they face.

Keywords: Birth, Open-heart Surgery, Primate Health, Reintroduction, Sanctuary



Orangutans: The High Society, 1996

Author Rating = 4

Instructor Rating, Mean = 3.67 (SD = 1.15; n = 3)

Runtime: 55 minutes

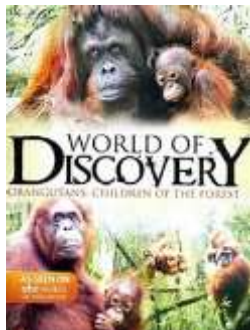
Species featured: Pongo abelii (Sumatran Orangutan)

Also included: Macaca fascicularis (Long-tailed Macaque)

Narrator: Brenda Vaccaro

Film Review: Sumatran orangutans in Gunung Leuser National Park are the focus of this film. It contains great footage of orangutans engaging in rarely recorded behaviors, including forced copulation, aggression, and using tools to retrieve honey. These rare insights into orangutan life provide a contrast to most other documentaries on orangutans, in which they are shown in serene solitude.

Keywords: Aggression, Behavior, Sex, Tool Use



World of Discovery: Orangutans, Children of the Forest, 1995

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 48 minutes

Species featured: Pongo pygmaeus (Bornean Orangutan)

Narrator: James Brolin

Film Review: This documentary focuses primarily on one captive orangutan's journey from a household pet in Taiwan to reintroduction into the forests of Borneo. The show highlights many of the conservation challenges facing orangutans, including the pet trade, trade in orangutan parts, habitat destruction, and the lack of enforcement of existing conservation laws. It also highlights the long and arduous process of reintroducing orangutans once they have been recovered from homes or the illegal pet trade. This is a valuable resource for teaching students about primate conservation.

Keywords: Conservation, Pet Trade, Primate Profile, Reintroduction



Gibbon Locomotion, 1971

Author Rating = 1

Instructor Rating, Mean = 3.5 (SD = 0.71; n = 2)

Runtime: 4 minutes

Species featured: unidentified gibbon

Narrator: none (Silent film)

Film Review: This short film depicts gibbons locomoting through the trees and on the ground. Although this short film was probably useful as an instructional tool in the 1970s, it is no longer

very relevant. The footage is grainy and dark compared with modern, higher-quality footage (such as the *Meet the Family* episode of *Monkey Planet* (2014), which has excellent footage of gibbon locomotion).

Keywords: Locomotion



Borneo, 1937

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 75 minutes

Species featured: *Nasalis larvatus* (Proboscis Monkey), *Pongo pygmaeus* (Bornean Orangutan)

Also included: *Macaca fascicularis* (Long-tailed Macaque), *Macaca nemestrina* (Pig-tailed Macaque)

Narrator: Lowell Thomas

Film Review: This is a chronicle of filmmaker/explorer Martin and Osa Johnson's journey to Borneo. This film has little value from a primatological perspective, as the majority of the primate footage focuses on the Johnsons' multi-day attempt to capture an orangutan to sell to a Western zoo. Educators should be aware that the footage of the orangutan capture is both inhumane and disturbing. Several of the local people depicted in the film seem to be actors engaging in staged interactions, and the narration about indigenous people is blatantly racist. Some scenes of wildlife appear to have been filmed in an enclosure, based on the close proximity of species that would not typically associate so closely voluntarily (e.g. macaques, civets, and bears). The narrator makes several factual errors, although these may be artifacts related to the age of this film.

Keywords: Historical Perspectives

Educator Discretion Advised: Animal Cruelty, Graphic Capture of Orangutan, Racism, Staged Footage

African Old World Monkeys



Cheeky Monkey, 2015

Author Rating = 4

Instructor Rating, Mean = 3.75 (SD = 0.96; n = 4)

Runtime: 49 minutes

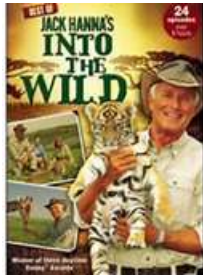
Species featured: *Chlorocebus aethiops* (Griset Monkey)

Narrator: Martin Clunes

Film Review: This film takes place in Durban, South Africa, and is an excellent resource for introducing students to the complexities of managing human-monkey interfaces, particularly in urban environments. In addition to the usual display of urban monkey hijinks (home raiding, destruction of property) featured in other films (e.g. the *Monkey Thieves* series), this film also provides the perspectives of the people living in close proximity to the monkeys. Some residents take a negative view, complaining bitterly about not being able to have gardens, monkeys entering their homes, and feeling that monkeys should not live in spaces with people. These negative perspectives are juxtaposed with other residents who say that they enjoy watching monkeys, feel privileged to have them around, and think that people should learn to co-exist. In addition, animal rescue workers discuss struggles of being unfunded and not having

suitable habitats to which they can relocate monkeys. *Cheeky Monkey* is on the same DVD as *Monkey Warriors*. If simply interested in vervet behavior and ecology, *Behavior and Ecology of the Vervet Monkeys in the Masai-Amboseli Game Reserve, Kenya* (1971) may be a more suitable resource.

Keywords: Human-Wildlife Conflict, Urban Environment



Jack Hanna's Into the Wild: Mandrills of Gabon, 2014

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 20 minutes

Species featured: Mandrillus sphinx (Mandrill)

Host: Jack Hanna

Film Review: There are few documentaries focusing specifically on mandrills, and so despite its drawbacks, this film may be useful for instructors wishing to discuss this particular species. Much of the episode follows Jack Hanna, his crew, and a guide as they try to locate the mandrills. This can be a bit tedious, especially given Hanna's struggles in the forest (the guide repeatedly admonishes him to be quiet), but it does convey the type of habitat in which the mandrills live. Most of the actual footage of the mandrills is through heavy foliage, making it difficult to discern details of behavior.

Keywords: Ecology



Living with Baboons, 2012

Author Rating = 4

Instructor Rating, Mean = 4.33 (SD = 0.58; n = 3)

Runtime: 51 minutes

Species featured: Papio hamadryas (Hamadryas Baboon)

Also included: Theropithecus gelada (Gelada)

Narrator: David Attenborough

Film Review: This *Natural World* special follows wildlife researcher Mat Pines as he wraps up a 5-year stint studying hamadryas baboons in Ethiopia. Pines is particularly concerned about ensuring the future survival of the baboons, who are threatened with habitat destruction in part because of illegally grazing livestock and competition with local people for resources. Pines works with the local Afar people to convince them that baboons have value, and he tries to devise strategies for a peaceful co-existence between baboons and people. Overall, this is a good resource for understanding the basics of hamadryas baboon ecology and behavior, and for touching on the conservation challenges they face.

Keywords: Behavior, Conservation, Ecology, Habitat Destruction, Researcher Profile



Wild Animal Orphans: Baby Baboons, 2012

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: captive baboons

Narrator: Adrian Galley

Film Review: This series focuses on a wildlife rescue center in Namibia. The show focuses only on the captive animals at the center, not on any wild animals or rescues. Reintroduction did not seem to be a priority, and the caregivers frequently engaged in behaviors that would be counter to any reintroduction goals. Some relevant information about primates is introduced (e.g. the negative impact of the pet trade on wild populations), but overall this is not a very educational show.

Keywords: Pet Trade, Wildlife Rescue Center

Educator Discretion Advised: Unethical behavior



Nature Tracks: The Highlanders, 2011

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 27 minutes

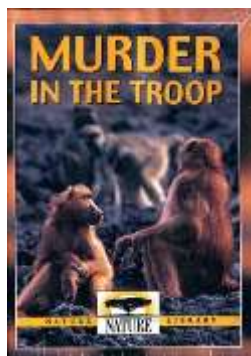
Species featured: Papio ursinus (Chacma Baboon)

Narrators: Michael Richard and Michael McGovern

Film Review: The first 10 minutes of this video feature a disjointed collection of facts unrelated to baboons. Topics range from soil formation to pelican eating habits and cultural practices of “African tribespeople.” The language used to discuss the baboons is unusual – baboon researchers are called baboon behaviorists, and baboon mating is referred to as “partaking of each other.” Baboon behavior and ecology is addressed at a superficial level and is at times misleading. The footage is frequently out of focus and does not appear to have been shot with professional equipment.

Keywords: Behavior

Educator Discretion Advised: For Elementary/Primary School Audience, Misleading content



Murder in the Troop, 2006

Author Rating = 4

Instructor Rating, Mean = N/A

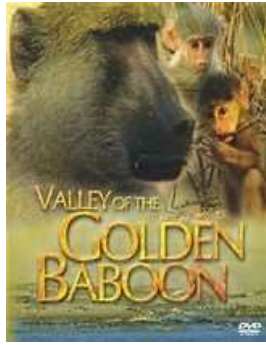
Runtime: 57 minutes

Species featured: Papio ursinus (Chacma Baboon)

Narrator: Jay O. Sanders

Much like *Valley of the Golden Baboon* (2005), this documentary focuses on the survival of baboons during the dry season. This film also emphasizes an occurrence of infanticide following the takeover of a troop by a new male. Similar to *Valley of the Golden Baboon*, the baboons in this film are also portrayed as though they live independently of humans and human influence, which is not accurate. Because of their strong similarities, *Murder in the Troop* and *Valley of the Golden Baboon* are largely interchangeable and mostly differ in the species featured (chacma versus yellow baboons) and location (Zambezi River versus Luangwa Valley).

Keywords: Behavior, Dominance, Dry Season, Infanticide



Valley of the Golden Baboon, 2005

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 50 minutes

Species featured = Papio cynocephalus (Yellow Baboon)

Narrator: Samuel West

Film Review: Yellow baboons are the main focus of this film, but it also prominently features other wildlife of the Luangwa Valley in Zambia as they endure the trials of the dry season. Overall, it provides a good overview of baboon social life, their co-existence with other species, and

interesting footage of what they eat during the dry season. However, the Luangwa Valley is mischaracterized as a place free of humans and human influence.

Keywords: Behavior, Coexistence, Ecological Setting, Ecology



Wild Women of Viramba, 2003

Author Rating = 4

Instructor Rating, Mean = 3.5 (SD = 0.71; n = 2)

Runtime: 48 minutes

Species featured: Papio cynocephalus (Yellow Baboon)

Narrator: John Shrapnel

Film Review: This installment in BBC's *Natural World* series follows a volunteer research assistant as she spends a year observing

yellow baboons in Zambia. The video provides a useful summary of a year in the life of these baboons, with a focus on the adult females (hence the misleading title – the “women” are the adult female baboons). The summary of the year includes the challenges the group faces during the dry season and difficulties avoiding predation. Perhaps more informative is the realistic view of fieldwork that it provides. The research assistant appears on camera frequently, and openly discusses and shows the difficulties (insects, heat, missing family, fatigue, fear about elephants, etc.) as well as the benefits (enjoying the baboons' antics, getting to know a new place, etc.) of fieldwork.

Keywords: Behavior, Ecology, Field Conditions, Researcher Profile



Keepers of the Forest: The Red Colobus of Zanzibar, 2000

Author Rating = 2

Instructor Rating, Mean = 4.50 (SD = 0.58; n = 4)

Runtime: 25 minutes

Species featured: Piliocolobus kirkii (Zanzibar Red Colobus)

Narrator: Allan Wenger

Film Review: This video focuses primarily on a guide who leads tours for viewing red colobus monkeys in Zanzibar. The behavior of the monkeys is a secondary focus. Much of the documentary is also spent characterizing the lives of the villagers that live near the monkeys. There are some interesting discussions of human-monkey conflict (including crop-raiding and roadkill issues), monkey management, primate tourism, and habitat destruction. This video would be most useful for people specifically interested in this particular species (*Piliocolobus kirkii*), or for those interested in placing human-monkey conflict into its broader cultural context.

Keywords: Ecotourism, Guide Profile, Habitat Destruction, Human-Wildlife Interface, Local Context



Baboon Tales, 1998

Author Rating = 4

Instructor Rating, Mean = N/A

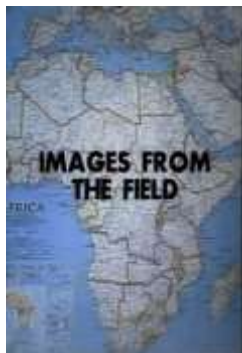
Runtime: 53 minutes

Species featured: Papio anubis (Olive Baboon)

Narrator: Glenn Close

Film Review: This documentary offers some insight into the everyday lives of olive baboons in Kenya as they survive (and fail to survive) a drought. It is an interesting documentary with good footage. Unlike many other films, this one does show mating behavior (albeit briefly), which provides a more complete picture of primate social life. However, the narrator made very little mention of the conservation challenges facing these baboons (e.g. conflict with humans). An extensive study guide, written by Shirley Strum, is available through the Bullfrog Films website.

Keywords: Behavior, Drought, Ecology



Images from the Field: Baboons, 1997

Author Rating = 3

Instructor Rating, Mean = 4 (SD = 1.41; n = 2)

Runtime: 24 minutes

Species featured: Papio ursinus (Chacma Baboon)

Narrator: Anne Zeller

Film Review: Like most of the films in the Documentary Educational Resources series, this documentary contains excellent and informative narration. However, the quality of the video footage is lacking. This installment focuses on chacma baboons' activities in a forested habitat.

While Anne Zeller's commentary is insightful, a video with more high-quality footage (e.g. the *Primates* episode of the BBC *Life* series, or the *Meet the Family* episode of *Monkey Planet*) would likely be more useful for educational purposes.

Keywords: Behavior, Ecology



Masked Monkeys, 1987

Author Rating = 3

Instructor Rating, Mean = 4.67 (SD = 0.52; n = 6)

Runtime: 50 minutes

Species featured: Cercopithecus ascanius (Red-tailed Monkey), Cercopithecus hamlyni (Owl-faced Monkey), Cercopithecus mitis (Blue Monkey), Lophocebus albigena (Grey-cheeked Mangabey), Papio anubis (Olive Baboon),

Piliocolobus tephrosceles (Ashy Red Colobus)

Also included: Allenopithecus nigroviridis (Allen's Swamp Monkey), Cercopithecus cephus (Moustached Monkey), Colobus guereza (Eastern Black-and-white Colobus), Mandrillus sphinx (Mandrill), Cercopithecus spp. (various guenons)

Host: Jonathan Kingdon

Film Review: This is an episode of the BBC series *The Natural World*. Jonathan Kingdon's artwork is the highlight of this film. He captures many guenon species in remarkable detail, and the scientific insights that arise from his artwork are fascinating. It is also interesting to see the outdated methods that scientists used to analyze guenon calls in the 1980s. Some drawbacks of the film are outdated terminology (especially guenon species names, which have since been revised substantially) and grainy footage. More updated films like *Clever Monkeys* (2008) include better footage, updated terminology, and recent insights about guenon communication.

Keywords: Morphology, Primate Communication, Researcher Profile

Patas
Monkey:
Ecology and
Behavior

Patas Monkey: Ecology and Behavior, 1980

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 17 minutes

Species featured: Erythrocebus patas (Patas Monkey)

Narrators: Derek Jones and Steve Gartlan

Film Review: This film provides a detailed overview of the ecology and behavior of patas monkeys. It was produced by researchers based upon their firsthand findings and experiences with these monkeys at Waza. The most interesting material focuses on interactions between patas monkeys and other species at watering holes. This film was difficult to procure, but is the only resource identified to-date that focuses extensively on patas monkeys. They are covered more briefly in the episode "The Monkeys" in the mini-series *Cousins* (2000).

Keywords: Behavior, Ecology

The Apes
of Barbary

The Apes of Barbary, 1974

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 30 minutes

Species featured: Macaca sylvanus (Barbary Macaque)

Narrator: Tony Richards

This film was directed by John Deag and is based on fieldwork he conducted in Morocco from 1968 to 1969. As with many other films from this era that were centered around scientific work, this one presents research results in a relatively straightforward fashion, without the dramatic flair of a more entertainment-oriented documentary (e.g. from BBC or DisneyNature). As such, this film provides a great deal of information about Barbary macaques (sometimes locally referred to as Barbary apes; hence the somewhat confusing title), and much of that information remains relevant today. There is also some interesting historical content, providing a glimpse into fieldwork before modern technology. For example, Deag and his wife are shown plotting macaque ranging patterns onto a small paper map with a pencil. However, the 1960s video technology produced low-quality footage and it is sometimes difficult to tell what the macaques are doing on the screen. Even so, this remains one of few resources to focus closely on Barbary macaques.

Keywords: Ecology, Human-Wildlife Interface, Population Biology

Behavior and Ecology of the Vervet Monkeys in the Masai-Amboseli Game Reserve, Kenya

Behavior and Ecology of the Vervet Monkeys in the Masai-Amboseli Game Reserve, Kenya, 1971

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 39 minutes

Species featured: Chlorocebus aethiops (Grivet Monkey)

Narrator: Thomas T. Struhsaker

Film Review: This documentary includes accurate and insightful information presented by the scientist (Thomas Struhsaker) who studied these monkeys firsthand. However, the footage is low quality and sepia-toned. The presentation resembles a movie presentation of an academic paper, complete with a methods section. Despite these drawbacks and its age, there is probably not a better resource for teaching about vervet monkeys.

Keywords: Behavior, Ecology

Baboon Ecology

Baboon Ecology, 1963

Author Rating = 3

Instructor Rating, Mean = 4 (SD = 1.00; n = 7)

Runtime: 22 minutes

Species featured: Papio ursinus (Chacma Baboon)

Narrator: Anthony Ostroff

Film Review: This video is part of a series focusing on the field research of primatologist Irvén DeVore, who produced the series, with Sherwood Washburn as a consultant. While the footage of the baboons is dated and low-quality by today's standards, the narration is still surprisingly relevant. Technical terms like "core area" are defined clearly and with the help of figures. Although there is a large emphasis on potential predators of baboons (lions, cheetahs, leopards), the narrator does not overstate the threat of predation events for dramatic effect as do many modern films. In fact, the narrator clarifies that humans are responsible for more baboon deaths than all of their other predators combined. To maximize the educational value of this film, instructors should properly contextualize this film by discussing early primate field studies and providing an overview of more recent research on baboon behavior.

Keywords: Behavior, Ecology, Predation

Baboon Social Organization

Baboon Social Organization, 1963

Author Rating = 3

Instructor Rating, Mean = 4 (SD = 1.00; n = 7)

Runtime: 17 minutes

Species featured: Papio ursinus (Chacma Baboon)

Narrator: Anthony Ostroff

Film Review: This video is part of a series focusing on the field research of primatologist Irvén DeVore, who produced the series, with Sherwood Washburn as a consultant. While the footage of the baboons is dated and low-quality by today's standards, the film provides a good overview of baboon social behavior. One of the particularly notable aspects of this film is that the narrator specifically mentions that dominance interactions have been overemphasized in the video because of their importance for social organization. The narrator mentions that, while dominance interactions are important they actually take up a relatively small proportion of

baboon daily life. Instructors should properly contextualize this film by discussing early primate field studies and providing an overview of more recent research on baboon social behavior.

Keywords: Dominance, Ecology, Social Behavior

**The
Chacma
Baboons
(*Papio
ursinus*):
Ecology and
Behavior**

The Chacma Baboons (*Papio ursinus*): Ecology and Behavior, 1962 (revised version, 1967)

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 19 minutes

Species featured: Papio ursinus (Chacma Baboon)

Narrator: unknown

Film Review: This documentary shows the “S” group of chacma baboons, which was the subject of an extensive field study, and explains their ecology and behavior. It is part of a larger series by primatologist C. R. Carpenter, although this video focuses more on the work of K. Hall than on Carpenter. One admirable aspect of this video is that the narrator specifically mentions that the events presented in the video are part of a *hypothetical* day in the life of the baboons, rather than trying to present the events as though they unfolded across a single day. This footage does not seem to have been very well preserved, so this video is sometimes difficult to watch (e.g. parts are jumpy; there are sometimes black lines on the screen). However, the narration provides a good summary of what was known about baboon ecology and behavior in the 1960s. Much of that information remains relevant but successfully incorporating this film into a lesson would require complementary coverage of more current research.

Keywords: Behavior, Ecology

**Baboon
Behavior**

Baboon Behavior, 1961

Author Rating = 3

Instructor Rating, Mean = 4 (SD = 1.00; n = 7)

Runtime: 32 minutes

Species featured: Papio ursinus (Chacma Baboon)

Narrator: Anthony Ostroff

Film Review: This video was produced by primatologists Irven DeVore and Sherwood Washburn, and focuses on their research on chacma baboons in Kenya. Like other videos in this series, the footage is not accompanied by sound other than narration (i.e., baboon vocalizations and other ambient environmental noise cannot be heard). One forward-thinking aspect of this film is the narrator’s disclaimer that violent interactions in the animal kingdom (including violent interactions among baboons) are often over-emphasized, which distorts the reality of their day-to-day, mostly peaceful, lives. Instructors should properly contextualize this film by discussing early primate field studies and providing an overview of more recent research on baboon behavior.

Keywords: Behavior, Ecology



Baboon, 1935

Author Rating = 2

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 65 minutes

Species featured: Papio anubis (Olive Baboon)

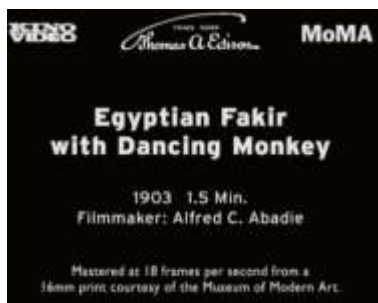
Also included: Cercopithecus mitis (Blue Monkey)

Narrator: Martin Johnson

Film Review: This classic safari film by Martin and Osa Johnson involves an aerial tour of part of eastern Africa, and includes footage of a variety of taxa, including lions, giraffes, rhinoceros, zebras, and more. The narration is sometimes factually incorrect and at other times offensive (e.g. referring to Africa as the “Dark Continent” and to local people as “savages”). In addition, animals are sometimes mistreated or captured on camera. Some animal encounters (e.g. a fight between a leopard and a warthog; an encounter between a hyena and a baboon group) are almost certainly staged by placing animals in a confined space. Overall, the only real educational value of this film is in understanding the early origins of ethnographic and nature film, and to see aerial views of east Africa in the 1930s.

Keywords: Historical Perspectives

Educator Discretion Advised: Animal Capture, Animal Cruelty, Racism, Staged Footage



Egyptian Fakir with Dancing Monkey, 1903

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 2 minutes

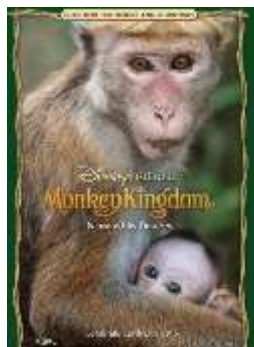
Species featured: baboon in captivity

Narrator: N/A

Film Review: This brief video depicts a trained baboon in a costume dancing while a man plays an instrument. Although the footage is over 100 years old, there is not much historical context to make the video a useful resource.

Keywords: Animal Entertainer, Pet Trade

Asian Old World Monkeys



Monkey Kingdom, 2015

Author Rating = 3

Instructor Rating, Mean = 3.75 (SD = 0.97; n = 12)

Runtime: 81 minutes

Species featured: Macaca sinica (Toque Macaque)

Also included: Semnopithecus priam (Tufted Gray Langur)

Narrator: Tina Fey

Film Review: This documentary has amazing footage of a group of macaques in Polonnaruwa in Sri Lanka. Entertaining narration by Tina Fey is likely to keep students’ attention. Like *Chimpanzee* (2012), this film is definitely aimed toward a Disney audience. The focus of the film is a low-ranking female macaque, who is presented as a plucky monkey who solves problems in the face of adversity.

The storyline leads to some misrepresentations of macaque life; for example, the narrator repeatedly implies that macaque paternity is known and understood by the monkeys. The movie also exaggerates the struggles of low-ranking females in macaque groups. With some commentary from the instructor to clarify these issues, this film can be a valuable educational resource.

Keywords: Behavior, Dominance



Monkey Warriors, 2015

Author Rating = 3

Instructor Rating, Mean = 4.5 (SD = 0.71; n = 2)

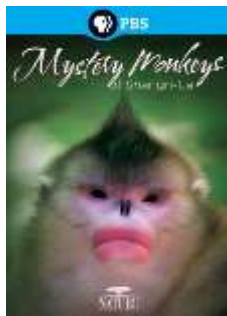
Runtime: 49 minutes

Species featured: Semnopithecus dussumieri (Southern Plains Gray Langur)

Narrator: Jerome Flynn

Film Review: Langurs in Jodhpur, India are featured in this installment of the *Natural World* series. The urban monkeys are often demonized with strong language of the narrator who refers to the alpha male as a “warlord” and the adult males being fueled by “bloodlust.” However, given the serious injuries the monkeys inflict on one another and the multiple occurrences of infanticide, this language does not seem to be as much of an exaggeration as it would otherwise. The language combined with overuse of slow motion create a sense of melodrama. This film may be useful for illustrating urban wildlife, langurs, or male aggression to students.

Keywords: Aggression, Behavior, Infanticide, Urban Context



Mystery Monkeys of Shangri-La, 2015

Author Rating = 4

Instructor Rating, Mean = 4.21 (SD = 0.89; n = 14)

Runtime: 54 minutes

Species featured: Rhinopithecus bieti (Black Snub-nosed Monkey)

Narrator: BD Wong

Film Review: This documentary is part of BBC’s long-running *Nature* series. Yunnan snub-nosed monkeys are the focus of this episode, which especially highlights the different experiences of two male infants born to two different mothers in the same group. The show is one of the most detailed resources available that focuses on the snub-nosed monkey. The footage is stunning, and the film crew periodically provides commentary on what it was like to film the monkeys. The narration and soundtrack are engineered to elicit emotional responses, but overall this is a beautiful and educational film.

Keywords: Development, Social Behavior



Snow Monkeys, 2014

Author Rating = 3

Instructor Rating, Mean = 4.12 (SD = 0.91; n = 26)

Runtime: 53 minutes

Species featured: Macaca fuscata (Japanese Macaque)

Narrator: Liam Neeson

Film Review: This installment in PBS’s *Nature* series is narrated by Liam Neeson, making the lives of Japanese macaques seem especially suspenseful.

Overall, this is a good resource for learning some of the basic behavior and ecology of Japanese macaques. There are also some unusual events represented (e.g. the friendship between a young male juvenile and the adult alpha male, and the adoption of an abandoned infant by an adult female who already has her own infant). On the other hand, more typical events are absent or underrepresented (e.g. despite obvious signs of human overlap, no people are shown in the film). The footage of the macaques is beautiful, and covers all four seasons, providing a detailed perspective on the macaques' ecology.

Keywords: Adoption, Behavior, Ecology



The Funkiest Monkeys, 2014

Author Rating = 4

Instructor Rating, Mean = 3.43 (SD = 1.27; n = 7)

Runtime: 53 minutes

Species featured = Macaca nigra (Celebes Crested Macaque)

Narrator: Colin Stafford-Johnson

Film Review: This *Nature* episode is almost identical to the 2013 *Natural World* episode "Meet the Monkeys." Like most of the other installments in the PBS *Nature* series, this one has high-quality footage and well-informed narration. This show highlighted not only conservation challenges for the critically endangered crested black macaques, but also documented a laudable effort to alleviate hunting for the bushmeat trade, which is one of the biggest threats facing these macaques. In conjunction with making this film, the filmmakers also produced a film in the local language to educate local people about the macaques. As with many nature documentaries, this one does provide a slightly skewed view of primate behavior because it makes no mention of mating. Overall, this film has good coverage of a critically endangered species.

Keywords: Behavior, Bushmeat Trade, Conservation, Public Outreach



Meet the Monkeys, 2013

Author Rating = 4

Instructor Rating, Mean = 3.5 (SD = 0.71; n = 2)

Runtime: 49 minutes

Species featured = Macaca nigra (Celebes Crested Macaque)

Narrator: Colin Stafford-Johnson

Film Review: This *Natural World* episode is almost identical to the 2014 *Nature* episode "The Funkiest Monkeys." This show highlighted not only conservation challenges for the critically endangered crested black macaques, but also documented a laudable effort to alleviate hunting for the bushmeat trade, which is one of the biggest threats facing these macaques. In conjunction with making this film, the filmmakers also produced a film in the local language to educate local people about the macaques. As with many nature documentaries, this one does provide a slightly skewed view of primate behavior because it makes no mention of mating. Overall, this film has good coverage of a critically endangered species.

Keywords: Behavior, Bushmeat Trade, Conservation, Public Outreach



Monkey Thieves (series), 2008-2011 (AKA Rebel Monkeys)

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: see individual episodes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: This series focuses on rhesus macaques living in the city of Jaipur, India. Although sensationalized, these episodes show urban primate life and the problems that are associated with it. The series frequently

highlights human-monkey conflict, macaque management, and animal rescue. The educational value of the series is diminished by the over-dramatization of the show, especially the practice of staging scenes and then presenting them as though they occurred spontaneously. Nevertheless, the fast-paced, suspenseful action of the show will likely hold students' attention. Each episode is reviewed individually.

Keywords: Animal Management, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 1: Coming of Age, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: In the season three premiere, several months have passed since the events of season two. New characters are introduced, and some of the familiar characters from previous seasons have progressed into adolescence or adulthood, leading to new storylines about coming-of-age in macaque society. In this episode, three adolescent males are kicked out

of their group after showing interest in the group's adult females. As with previous seasons, staging and editing techniques are still heavily used for dramatic effect.

Keywords: Animal Management, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 2: Zamir's Legacy, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: As with many of these episodes, one of the main storylines in this episode focuses on human-monkey conflict, and specifically on a raid (this particular one is on a milk vendor's stall) that appears to have been staged in advance. A theme continued from the previous episode is

the coming-of-age of three young males familiar from the first two seasons of the show. Now that they've matured and been banished from their natal group they face new challenges such as

finding mates, avoiding conflict with males in other groups, and evading the monkey catcher. As with previous seasons, this season continues to follow animal charity Help in Suffering's work with injured and abandoned macaques.

Keywords: Animal Management, Animal Rescue, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 3: Royal Retreat, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: Human-monkey conflict has so far been the focus of this season, and that continues in this episode when the macaques raid a bakery (another scene which appears as though it was staged). In addition to the monkey hijinks, the show has followed the activities of Jaipur's monkey catcher as he responds to complaints about macaques. The other main event in this episode is the death of one of the main characters of the show's first two seasons – the alpha female of the original "Galta Gang." Around the same time, the alpha male is bested by younger males. The absence of the two alphas and the resulting upheaval in the group provide some insight into the social dynamics of a macaque group.

Keywords: Animal Management, Death, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 4: Paradise Lost, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: This episode includes some unusual film editing, in which extreme close-ups are rapidly spliced together which can make it difficult to tell what is actually happening despite ongoing narration describing the situation. This occurs at one point when a macaque supposedly attacks a man (footage cuts rapidly between a macaque lunging at the camera and a man clutching his face and crying out) and again when a crocodile supposedly eats a macaque (footage cuts rapidly between the open mouth of a crocodile and fast shots of a macaque torso). Both situations are plausible, but the editing makes it appear that neither was actually caught on film. Main plot points in this episode were the raiding of a delivery truck, the ongoing but unsuccessful efforts of the monkey catcher, the social upheaval in the temple group following the loss of the alpha male and female, and the ongoing care of monkeys at animal charity Help in Suffering.

Keywords: Animal Management, Animal Rescue, Human-Wildlife Interface, Predation, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 5: Sweet Revenge, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: The monkey catcher fails again to catch some monkeys, and these storylines are becoming increasingly unrealistic. However, they still illustrate important concepts about human-monkey conflict and how complaints from the public can influence wildlife management decisions.

In this episode, the bachelor males ejected from their group in the first episode are accepted into a new group with a tolerant alpha male, highlighting the variability in leadership styles that exist among rhesus macaque males.

Keywords: Animal Management, Dominance, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 6: Three's a Crowd, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

In addition to the mainstay topics of macaque sociality and human-monkey conflict, some rare events are highlighted in this episode. A monkey is electrocuted but survives, and the group's response to this event are caught on video. An orphaned infant struggles to find support from adult females in her group, but is ultimately allowed to suckle from

one of the more tolerant females. The three bachelor males that have been featured since their adolescence in their natal group finally split up after one male is accepted by a new group with a tolerant alpha male. The other two males are chased out of the group. This episode's human-monkey conflict features a raid on a food kiosk.

Keywords: Human-Wildlife Interface, Injury, Orphan, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 7: Allied Forces, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: The monkey catcher's tactics to manage problem macaques are increasingly unusual and unrealistic. In this episode, a man dressed as a

langur fails in his goal of frightening the macaques away. The Galta Temple is again the source of a territory dispute between macaques and langurs, and the langurs make significant advances in taking over the temple. In a scene that appears staged, two macaques raid a taxi and steal the driver's wallet.

Keywords: Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 8: Last Man Standing, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: The events of this episode take place during a city-wide marriage festival. The season began by following three bachelor males ejected from their natal group together. In episode 6, one of the males was accepted by a new group, and in this episode a second of those males is accepted by another group, leaving one of the males on his own. The main storyline of this episode involves the monkey catcher setting an elaborate trap disguised as a fruit stand. This tactic was marginally successful, as only one or two monkeys were captured. The other focus of this episode is a recent baby boom in the focal monkey group, and how the newly enlarged population will survive until the monsoon rains arrive.

Keywords: Animal Management, Human-Wildlife Interface, Population Growth, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 9: Low Life, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: The tension between the monkey catcher and the macaques escalates when the monkeys raid the monkey catcher's kite shop. This scene seems improbable and likely staged – the monkeys happen to choose the monkey catcher's shop to raid even though there appears to be no food in the shop, and a shopkeeper sleeps through the monkeys' destruction of most of the shop's inventory. The episode also features the raiding of a spice stall. An aggressive conflict in the "Galta Gang" is chronicled in which social instability continues to cause problems following the recent deaths of the alpha male and female.

Keywords: Aggression, Animal Management, Human-Wildlife Interface, Social Behavior, Social Instability, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 10: Bad Boys, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

The monkey catcher devises an elaborate plot to catch a macaque group that has been the subject of many recent public complaints. His ploy to turn an entire apartment into a trap for the group goes awry when some monkeys escape. The trapped monkeys trash the apartment and the escaped monkeys open a door from the outside, allowing the rest of the monkeys out. The whole situation is highly improbable, and was likely at least partially staged. Other highlights include footage of young macaques playing in a water trough and a series of interactions between macaques and domesticated animals (cows, goats, etc.).

Keywords: Animal Management, Human-Wildlife Interface, Interspecific Interaction, Play, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 11: Gate Crashers, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: Interactions between the monkey catcher and macaques are highly improbable, and likely staged. The macaques are also documented raiding a child's birthday party. Given the film crew's presence at the party before the macaques' arrival, and the failure of anyone at the party to notice a band of macaques destroying a cake, eating all the food, and stealing all of the presents, it seems impossible that this sequence was not staged. The dry season finally ends, providing some relief to the macaques and to animal rescue workers providing sanctuary to abandoned young macaques.

Keywords: Animal Management, Animal Rescue, Dry Season, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 12: Like Father, Like Sons, 2011

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

The second-to-last episode in the series takes place two months after the previous episode, and focuses on some interesting issues. The monkey catcher demonstrates a previously unmentioned management tactic:

herding macaques away from a high-conflict zone into a more suitable habitat (in this case, Galta Temple) in the hope of alleviating human-monkey conflict. This episode also focuses on a three-way battle for temple territory: between the resident macaques, the langurs, and the macaques herded to the temple by the monkey catcher.

Keywords: Animal Management, Human-Wildlife Interface, Social Behavior, Urban Context
Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 3, episode 13: Arrested Development, 2011

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: There were some discrepancies in the timeline of the last two episodes. In Episode 12 of Season 3 (the episode before this one), the monkey catcher herded a group of macaques to the outskirts of the city, where they encountered a resident group of macaques at Galta Temple.

For some reason, in this episode, the monkey catcher is again herding the same group of monkeys toward the temple, and the narration proceeds as though the previous episode never happened. It is not the same episode, but it covers the same event as the other episode. The series is typically presented in chronological order, but this episode ended just as the macaques were reaching the temple, whereas Episode 12 of Season 3 ended after the macaques had reached the temple (ostensibly later in time than this episode). This episode ends with a teaser of the next episode, but as of early 2018, no new episodes have been released since 2011. Unfortunately, this left a number of storylines unresolved.

Keywords: Animal Management, Human-Wildlife Interface, Social Behavior, Urban Context
Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 1: Divided We Stand, 2010

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: The first episode of the second season documents how seemingly unrelated factors can impact wildlife. For example, the narrator mentions the tough economy and subsequent decrease in food offerings at temples, which monkeys rely on as a source of food. The episode also addresses some of the challenges associated with running an animal rescue charity, including lack of funding and difficulty in relocating animals to zoos. One significant change from the previous season is that the main group featured in the show (the “Galta Gang”) has now fissioned into two distinct groups. This episode also features a scene in which the monkeys raid a sweet shop. The camera placement and convenient access to a wide array of unattended food make it seem likely that this scene was staged. Overall, this episode could be a useful tool for teaching students about urban wildlife and the unique challenges and situations they face.

Keywords: Animal Management, Animal Rescue, Group Fission, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 2: Hard Times, 2010

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: This episode takes place during a citywide kite festival, and a significant amount of footage is of the festival and macaques playing with kites. There is also footage of a man dressed as a langur working as a security guard to scare off macaques. This provides some

insight into the difficulties faced when trying to manage urban macaques, and the constant creativity required to come up with novel strategies to mitigate these situations.

Keywords: Animal Management, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 3: Searching for Sanctuary, 2010

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: This episode focuses on a group of macaques that steal a group of children's lunches as the children are playing nearby on the playground. Upon discovering the theft, some of the children approach the monkeys and try to recover their lunches by intimidating the monkeys into abandoning their food. Predictably, the monkeys react

aggressively, but fortunately none of the children are harmed. This sequence highlights the importance of teaching children about how to safely interact with wildlife, and showcases one of the more dangerous forms of human-macaque conflict.

Keywords: Aggression, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 4: Urban Exile, 2010

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: This season's focus on the economic crisis and its impacts on urban macaques continues, as the macaques continue to search for food

and compete with langurs for offerings from people. This episode also contains footage of macaques raiding crops, providing an idea of the inconvenience and economic losses that macaques can impose on farmers. The animal rescue charity cares for several young macaques that have reportedly been abandoned by their mothers, possibly due to food shortages.

Keywords: Animal Management, Animal Rescue, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 5: Street Life, 2010

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: *Macaca mulatta* (Rhesus Macaque)

Also included: *Semnopithecus entellus* (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: Although urban macaques do enter homes and businesses searching for food, in this series the high frequency of successful raids in which humans fail to intervene is highly improbable, particularly when the camera crew has access to these private properties. In this episode,

macaques raid a restaurant where the door has been left open and find a surprising amount of unattended food. Also in this episode, the Help in Suffering animal charity deals with two unusual cases – a wild macaque who has contracted tetanus and a wild langur who has seriously damaged his tail in a barbed wire fence. The episode concludes with a conflict over territory between macaques and langurs.

Keywords: Animal Management, Animal Rescue, Human-Wildlife Interface, Interspecific Interaction, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 6: Home Hunters, 2010

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: *Macaca mulatta* (Rhesus Macaque)

Also included: *Semnopithecus entellus* (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: Following their displacement from the temple by the langurs, the macaques search for a new territory. Their movements bring them into the territory of two other large monkey groups, resulting in a massive and brutal conflict that is eventually broken up by a park ranger

wielding sticks. Another storyline follows a monkey that was removed from the city following complaints. His new life in a more rural area outside the city provides an interesting contrast to the urban lives of the other macaques.

Keywords: Aggression, Animal Management, Animal Rescue, Human-Wildlife Interface, Intergroup Conflict, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 7: Beggars' Banquet, 2010

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: Most of this episode focuses on the monkeys' search for food, including a raid on an apartment. The apartment raid seems that it was likely staged given the slightly ajar door and lack of people, access to a fully stocked refrigerator, and the film crew's apparently unrestricted access to the apartment. Other developments include a

previously relocated monkey getting accidentally trapped inside the back of a truck headed toward Jaipur, and the local monkey catcher's training of new apprentices.

Keywords: Animal Management, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 8: Cops and Robbers, 2010

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: In this episode, a monkey previously relocated outside the city finds his way back to his original territory in Jaipur. A young monkey goes missing from the focal group. The episode also features the macaques destroying textiles and a policeman's radio which are events likely to have been staged, due to the lack of human interference.

Monkey catcher apprentices try and fail to capture macaques.

Keywords: Animal Management, Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 9: Missing in Action, 2010

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: This episode includes several interspecies interactions, and highlights the greater tolerance that juvenile primates have for other species. A young macaque that was separated from his group in the previous episode accidentally electrocutes himself. The episode also

features an innovative approach to animal management, in that a security guard dresses and walks like a langur to scare off macaques.

Keywords: Animal Management, Human-Wildlife Interface, Injury, Interspecific Interaction, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 10: Drug Raid, 2010

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

In this episode, an electrocuted macaque is treated by an animal rescue charity. The alpha male of one group is trapped for relocation by a monkey catcher. In a scene that was either staged or backfilmed, a group of macaques raids a hospital room. This episode also features an aggressive interaction between two macaque groups over territory.

Keywords: Aggression, Animal Management, Animal Rescue, Human-Wildlife Interface, Intergroup Conflict, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 11: Colour and Calamity, 2010

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: The Elephant Festival and the Holi festival take place during this episode. The perils of electrocution have been highlighted several times over the course of this series, but are featured prominently in this episode, in which one macaque is killed and a young langur is

seriously injured following electrocutions. Throughout the series and particularly in this episode, footage is reused in different contexts. For example, a close-up of a facial threat shown during an aggressive interaction in this episode has been shown during at least two previous episodes. This practice of reusing footage can be misleading, as it creates a false version of events and may give the impression that some rare behaviors are common. Mentioning such practices when showing these types of films to students may help them to establish realistic expectations about nature documentaries.

Keywords: Animal Management, Animal Rescue, Death, Human-Wildlife Interface, Injury, Social Behavior, Urban Context

Educator Discretion Advised: Misleading Content, Sensationalism, Staged Footage,



Monkey Thieves, season 2, episode 12: An Unlikely Hero, 2010

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: The main focus of this episode is the assumption of the alpha role by a new male. This episode also features two raids on markets. Some macaque social interactions in this episode seem to have been heavily edited to increase suspense and drama. For example, at one point, footage of various macaque facial expressions seems to have been

spliced together to give the appearance of a tense interaction that may or may not have actually occurred. Staging or backfilming were likely also used in a series of events in which macaques steal milk from a milk delivery man.

Keywords: Human-Wildlife Interface, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 2, episode 13: Deliverance, 2010

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

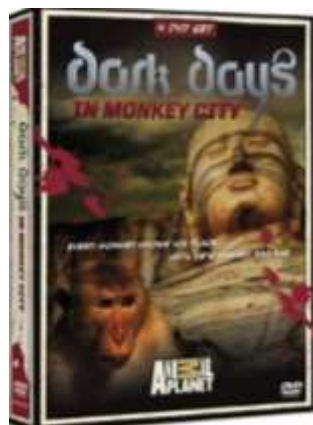
Narrator: Sean Pertwee

Film Review: In the season two finale, rhesus macaques engage in a territorial conflict with langurs, ultimately winning back the coveted Galta Temple territory where people provide food offerings to resident monkeys. The territorial dispute is heavily edited with splicing to give

the effect that the two species appear as if they are in close contact when in reality this is unlikely. The episode also shows a failed attempt to reintroduce several young macaques to the wild.

Keywords: Aggression, Animal Management, Animal Rescue, Human-Wildlife Interface, Interspecific Conflict, Reintroduction, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Dark Days in Monkey City (series), 2009

Author Rating = 2

Instructor Rating, Mean = 3.67 (SD = 0.58; n = 3)

Runtime: see individual episodes

Species featured: Macaca sinica (Toque Macaque)

Narrator: John Rhys-Davies

Film Review: This hyperbolic series is presented in a comic book style, with lots of CGI and animated effects to enhance the live action macaque footage. The 13-episode series focuses on toque macaques at a temple complex in Sri Lanka. It is intended to be engaging and entertaining, with clear storylines and soap opera-like drama. The

minimal educational content comes in the form of brief interjections by primatologist Wolfgang Dittus, which provide insights into macaque behavior. The first four episodes are reviewed individually below, but the series is now very difficult to find so the last nine episodes were not available for review.

Keywords: Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism



Dark Days in Monkey City, season 1, episode 1: Born of the Storm, 2009

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 22 minutes

Species featured: Macaca sinica (Toque Macaque)

Narrator: John Rhys-Davies

Film Review: The main event in this episode is the dramatic birth of an infant to a low-ranking female, ostensibly during a violent storm. None of the birth is shown, and the infant shown was obviously not just born. This episode also serves to set up the tension between two macaque groups – The Temple Troop and the Black Claws – who compete for overlapping territory. The show is heavily edited to give it the appearance of a comic book; and the narrator is melodramatic. Frequently, emotions or mental states are attributed to the monkeys. For example, the narrator says that an adult female “is worried about her baby, which lies ominously still in her womb.” Although the soap opera drama can be over the top, it may be useful for keeping students engaged.

Keywords: Birth, Social Behavior, Urban Context

Educator Discretion Advised: Misleading Content, Sensationalism



Dark Days in Monkey City, season 1, episode 2: To Be King, 2009

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 22 minutes

Species featured: Macaca sinica (Toque Macaque)

Narrator: John Rhys-Davies

Film Review: This episode focuses on escalating tension between two macaque groups as they conflict over access to an area with quality food resources (referred to by the narrator as “Fig Tree Vale”). While the narration is overly dramatic, one interesting element of this show is that it shows some of the severe injuries that macaques sustain and recover from. However, the aggressive interactions in this show are greatly exaggerated by splicing together footage of a number of monkeys, presumably to prolong the supposed interaction.

Keywords: Injury, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism



Dark Days in Monkey City, season 1, episode 3: Invasion of the Black Claws, 2009

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 22 minutes

Species featured: Macaca sinica (Toque Macaque)

Narrator: John Rhys-Davies

Film Review: In this episode, a new alpha male assumes leadership of the Temple Troop. Another macaque group, the Black Claws, conflict with the Temple Troop over access to food-rich territory. As expected, the hyperbole continues in episode three of this series. The most educational parts of the show are the interjections by primatologist Wolfgang Dittus, but there is typically only one brief remark from him per episode. This episode features an interesting predation event in which a water monitor kills a young macaque. However, the footage is heavily edited with animation (e.g. with the addition of animated blood splatters) to emphasize dramatic effect.

Keywords: Death, Intergroup Encounter, Predation, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism



Dark Days in Monkey City, season 1, episode 4: Battle for Fig Tree Vale, 2009

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 22 minutes

Species featured: Macaca sinica (Toque Macaque)

Narrator: John Rhys-Davies

Film Review: The main event in this episode was a battle between two macaque groups over a prime territory that contains a large number of fig trees (referred to by the narrator as “Fig Tree Vale”). The conflict was interesting and feasible, but as with the previous episode, footage was heavily edited with animation which can be distracting. Although the episode followed a linear storyline, the footage appeared to be a number of separate aggressive interactions among macaques spliced together to create the impression of a single large-scale “battle.”

Keywords: Intergroup Encounter, Social Behavior, Urban Context

Educator Discretion Advised: Sensationalism



Macaques, 2008

Author Rating = 3

Instructor Rating, Mean = 3 (SD = N/A; n = 1)

Runtime: 53 minutes

Species featured: Macaca fascicularis (Long-tailed Macaque), Macaca fuscata (Japanese Macaque), Macaca ochreata (Booted Macaque), Macaca sylvanus (Barbary Macaque)

Also included: various captive macaque species

Narrator: Anne Zeller

Film Review: This installment in Anne Zeller’s Documentary Educational Resources series focuses entirely on macaques, which are Zeller’s area of expertise. As such, there is a great deal of useful information in this video, ranging from macaque evolutionary history and geographic

distribution to details of species-specific behavior and ecology, but this episode suffers from the same issues as the other installments in the series. Specifically, the footage is often shaky, grainy, or out-of-focus, and delivery of narration is not engaging. While there is interesting wild footage of several macaque species (e.g. *Macaca fuscata* and *Macaca sylvanus*), captive footage is frequently used, even for species that are accessible for filming in natural contexts (e.g. *Macaca mulatta*).

Keywords: Behavior, Ecology



Monkey Thieves, season 1, episode 1: Apartment Job, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: This is the first episode of the National Geographic series *Monkey Thieves*, which focuses on the urban lives of rhesus macaques in Jaipur, India. This episode showcases some truths about urban life for macaques (e.g. conflict with humans, risks of city-living). The fast-paced, sometimes humorous style and the anthropomorphized characters are

effective at keeping audience attention and may be appropriate for an introductory level course, especially if the instructor provides some commentary and context. However, some scenes (i.e. the apartment raid) are clearly staged.

Keywords: Human-Wildlife Interface, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 2: Fang's Market, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: The second episode in the *Monkey Thieves* episode focuses mainly on rhesus macaques raiding an open-air market. Portions of the market raid seem as though they were potentially staged due to the placement of numerous cameras and the high tolerance of the vendors

for the macaques stealing their goods. Nevertheless, this episode does feature some interesting human-macaque conflict issues. For example, this episode also shows the veterinary care provided to an electrocuted macaque, which highlights the relative tolerance for macaques in India compared to other places in Asia.

Keywords: Animal Rescue, Human-Wildlife Interface, Injury, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 3: The Monkey Catcher, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: This episode shows what can happen when human-macaque conflicts escalate to agonism. The rhesus macaques steal food from a vendor's cart, and then engage in a prolonged confrontation with the vendor. The vendor is attacked by a monkey (incurring minor

scratches) and calls the monkey catcher, who traps some of the monkeys for relocation. While perhaps overly dramatized, this episode does illustrate some of the complexities of human-macaque conflict and the strategies used to mitigate that conflict.

Keywords: Aggression, Animal Management, Human-Wildlife Interface, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 4: Taxi Raid, 2008

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Film Review: This particular episode highlights some challenges of urban macaque management by focusing on the challenges faced by a group of monkeys that has been translocated from the urban area to a rural setting away from the city. Although a scene in which macaques raid a taxi looking for food appears staged, there are still valuable lessons to learn from this episode.

Keywords: Human-Wildlife Interface, Translocation, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 5: Skid Row, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: This episode was particularly fraught with what seemed to be artificial drama. Despite the narrator repeatedly referring to the group of macaques as being "near starving" and in danger of never seeing fresh food again, the monkeys appeared physically healthy and were engaging in normal behaviors such as playing. Unlike some of the other episodes,

this one did not provide much insight into the lives of urban macaques.

Keywords: Food Shortage, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 6: Monsoon Showdown, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: In this episode, monsoon rains arrive and the macaques are able to find plenty of food once again. Also, a part of the group that had been translocated as a management strategy finds their way back to the rest of the group. In addition, an outside male attacks some females in the group, which leads to a large fight with injuries to several monkeys

and the death of a young infant. Although this provided a good opportunity to learn about macaque aggression, footage from previous episodes were spliced in with the current fight. This was likely done to compensate for not having footage of some aspects of the encounter (e.g. when the infant was killed). However, this technique decreased the educational value of the existing footage.

Keywords: Aggression, Death, Intergroup Conflict, Infanticide, Urban Context

Educator Discretion Advised: Misleading Content, Sensationalism



Monkey Thieves, season 1, episode 7: One Bad Apple, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: This episode highlights some important issues about human-macaque conflict, and especially focuses on severe conflicts that result in injuries or even death to people. As part of the focus on conflict, some management strategies are shown. However, the educational value of this episode is lessened by the demonization of the

macaques through misleading edits that make them appear violent and malicious.

Keywords: Animal Management, Human-Wildlife Interface, Urban Context

Educator Discretion Advised: Misleading Content, Sensationalism



Monkey Thieves, season 1, episode 8: Return of the Rebel, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: This episode highlights human-macaque conflict, including an interaction where macaques steal a woman's groceries. It is concerning that the scene appears as though it was staged in advance of filming, and that the narrator demonizes the macaques by characterizing

a macaque following a woman as a "stalker" and her as his "victim." An interesting aspect of this

episode is the attempted reintroduction of a rehabilitated macaque into his original group, which continues in the next episode.

Keywords: Human-Wildlife Interface, Reintroduction, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 9: The Great Escape, 2008

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: In this episode, a rehabilitated monkey whose story has been followed for several episodes is finally released. This footage shines some light on the challenges of reintroducing a primate into the wild, and the resources required for such an undertaking. Meanwhile, other macaques are caught by monkey catchers for relocation away from

the city. One scene showing macaques raiding an office was most likely staged.

Keywords: Animal Management, Human-Wildlife Conflict, Reintroduction, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 10: Trading Places, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: Macaques raid a jewelry store and a hotel storeroom. Monkey catchers search for monkeys. Macaque rescue workers try to locate a recently released macaque, but fail to find him. Worshippers provide macaques with food offerings.

Keywords: Animal Management, Animal Rescue, Human-Wildlife

Conflict, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 11: Rising Forces, 2008

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Also included: Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Sean Pertwee

Film Review: This episode highlights the animal management strategies in place, including more traditional methods like relocation and feeding bans (which are shown being violated in this episode). Innovative methods are also featured, such as the use of captive langurs in

conjunction with security guards to scare macaques away from human-inhabited areas. The festival of Holi also takes place in this episode.

Keywords: Animal Management, Human-Wildlife Conflict, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 12: Heroes & Villains, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: Sean Pertwee

Film Review: This episode mostly focuses on a battle between the main group featured in the series (the “Galta Gang”) and another group trying to encroach on their territory. The aggression between the groups is exaggerated and drawn out for dramatic effect, but does result in real injuries to some adult males. One potentially confusing storyline

unfolding over the past few episodes concerns a macaque (Kavi) who was reintroduced by animal rescue workers and later joins a group containing an adult male that was previously part of the juvenile’s original group (the Galta Gang). Despite the fact that the group contains no other members from Kavi’s the Galta Gang, the narrator repeatedly claims that Kavi is confused and believes himself to be with his original group because of the presence of his “uncle.” In this episode, Kavi is finally reunited with the Galta Gang

Keywords: Aggression, Human-Wildlife Conflict, Intergroup Conflict, Reintroduction, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Monkey Thieves, season 1, episode 13: A New Dawn, 2008

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

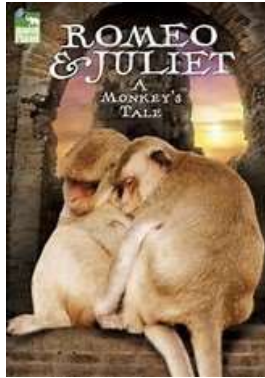
Narrator: Sean Pertwee

Film Review: In this episode, the alpha male of the Galta Gang is killed. However, the show does not focus on the turmoil that would normally follow from such a major change in the social hierarchy of a macaque group. Twins are born in another group, but the narrator fails to mention the rarity of such an event. A large “troublemaker” male is caught by a

monkey catcher in this episode, but the relocation process was highlighted in a previous episode. While the narrator makes several claims about the paternity of certain macaques, it is unclear whether the paternity of these groups has been established by researchers.

Keywords: Animal Management, Birth, Death, Human-Wildlife Conflict, Urban Context

Educator Discretion Advised: Sensationalism, Staged Footage



Romeo & Juliet: A Monkey's Tale, 2008

Author Rating = 1

Instructor Rating, Mean = 2 (SD = 1.41; n = 2)

Runtime: 43 minutes

Species featured: Macaca fascicularis (Long-tailed Macaque)

Narrator: Tim Hopper

Film Review: This documentary attempts to portray a version of William Shakespeare's "Romeo and Juliet" with a cast of long-tailed macaques in Lopburi, Thailand. The narrator speaks from the perspective of a macaque, and uses language that is highly anthropomorphic. The monkeys cast as Romeo and Juliet are introduced early in the documentary, but it becomes

clear that the characters are not always represented by the same monkeys throughout the film. For example, the narrator refers to a male monkey as Juliet at one point in the film. While some human-macaque issues are highlighted, they are not contextualized for viewers. Although this film contains some great footage of the urban macaques of Lopburi, it is difficult to conceive of an educational use for this film.

Keywords: Human-Wildlife Interface, Urban Context



The Baby Proboscis Monkey & The Baby Macaque, 2007

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 9 minutes

Species featured: Macaca fascicularis (Long-tailed Macaque), Nasalis larvatus (Proboscis Monkey)

Narrator: Ed Marcus

Film Review: This video is part of a series about animal babies. This video (and the rest of the animal baby videos in the series by New Dimension media, including *The Baby Baboon* & *The Baby Orangutan*) is intended for

a very young audience. For example, words such as "rival" and "grooming" are defined on the screen for viewers. The footage of free-ranging primates was of poor quality, and did not include information relevant for a college-level audience. The narrator's unusual pronunciation of macaque is distracting.

Keywords: Social Behavior

Educator Discretion Advised: For Elementary/Primary School Audience



Primates Like Us, 2003

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 57 minutes

Species featured: Macaca fascicularis (Long-tailed Macaque)

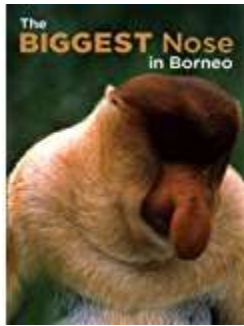
Narrator: none

Film Review: More than an account of wild macaque life, this

documentary is really an ethnographic account of a group of undergraduates attending a field course in primatology. The documentary focuses on student interviews and their experiences with Balinese culture (including human cremation and cock fighting). Nevertheless, the limited footage of non-human primates is interesting from the perspective of human-macaque

interactions. It shows monkeys climbing on people, footage of a tourist lifting a juvenile macaque from the ground, and monkeys lunging at and scratching people. The issue of macaque obesity resulting from eating an abundance of human food is also highlighted. These scenes would be useful in isolation for demonstrating conflict between humans and non-human primates. The entire video would be useful for students planning to embark on study abroad programs or attend a field course in Bali.

Keywords: Field Conditions, Human-Wildlife Interface, Primate Health



The Biggest Nose in Borneo, 2003

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 52 minutes

Species featured: Nasalis larvatus (Proboscis Monkey)

Narrator: Stephen Fry

Film Review: By not shying away from a discussion of sexual behavior, this documentary provides a more complete picture of primate social behavior than most other primate documentaries. The footage is high-quality, and the narrator clearly addresses conservation issues such as habitat loss and human-monkey conflict. The palm oil plantation owners in this documentary ultimately decide to convert their plantation to a proboscis monkey sanctuary, which should not be considered a common scenario. While this film is an excellent resource for highlighting conservation issues, its portrayal of the future of this species was overly optimistic and did not coincide with reality. Also, educators should be aware that the narrator's repeated references to the female monkeys as the "wives" of the alpha male are inappropriate and anthropomorphic.

Keywords: Conservation, Habitat Loss, Human-Wildlife Interface, Sexual Behavior, Social Behavior



Clown of the Jungle: The Proboscis Monkey of Borneo, 2000

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 46 minutes

Species featured: Nasalis larvatus (Proboscis Monkey)

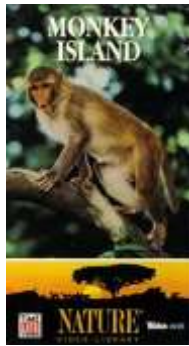
Also included: Macaca fascicularis (Long-tailed Macaque),

Trachypithecus cristatus (Silvery Lutung)

Narrator: Bud Tingwell

This is an updated alternative to *Odd Noses of Borneo* (1988). The more modern footage is higher quality, but the information is less reliable. The narrator makes some misleading statements about primate diets and feeding ecology. For instance, Tingwell implies that the diets of three sympatric monkeys (macaques, proboscis monkeys, and silvery lutung) do not overlap at all. Macaques' diets are oddly characterized as "insects, frogs' eggs, crabs, and ripe seeds," and the diets of captive monkeys generally is described as "fruits and nuts" rather than as being tailored to unique species. Discussion of conservation issues is also somewhat oversimplified.

Keywords: Behavior, Feeding Ecology



Monkey Island, 1991

Author Rating = 3

Instructor Rating, Mean = 4.36 (SD = 0.63; n = 14)

Runtime: 58 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: George Page

Film Review: This installment from the *Nature* series featured the rhesus macaques of Cayo Santiago Island in Puerto Rico. The narrator briefly mentions that macaques are not native to that area and were introduced to the island decades ago, but otherwise the documentary largely treats the macaques as

though they are a normal, wild population. There is no mention of the regular provisioning of the population or the impacts provisioning and space limitations may have on their social behavior. One positive aspect of the film is that it does not shy away from discussing mating, which is often overlooked in documentaries, providing a skewed view of primate social life.

Keywords: Sexual Behavior, Social Behavior



Moza the Snow Monkey, 1989

Author Rating = 4

Instructor Rating, Mean = 4 (SD = 1.10; n = 16)

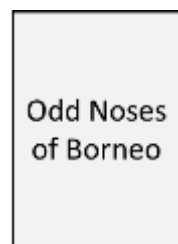
Runtime: 54 minutes

Species featured: Macaca fuscata (Japanese Macaque)

Narrator: George Page

Film Review: This film from the *Nature* series focuses on a Japanese macaque named Mozu, who was born with severe physical deformities of all four limbs, but went on to produce healthy offspring and lead a long life. Footage was shot over nine years, so the film provides insight into the life of a macaque group over a long period of time. The most remarkable scenes were shot with infrared cameras and show two incidences of females giving birth at night. The group was regularly provisioned, which may make the information presented less generalizable to other macaque groups. In addition, the film is very slow-paced, which hinders its usefulness as an educational resource.

Keywords: Birth, Infrared Footage, Primate Health, Social Behavior



Odd Noses of Borneo, 1988

Author Rating = 4

Instructor Rating, Mean = 4.25 (SD = 1.50; n = 4)

Runtime: 26 minutes

Species featured: Nasalis larvatus (Proboscis Monkey)

Also included: Hylobates muelleri (Müller's Bornean Gibbon), Macaca fascicularis (Long-tailed Macaque), Trachypithecus cristatus (Silvery Lutung)

Narrator: David Attenborough

Film Review: This is an informative introduction to the proboscis monkeys of Borneo. It also discusses mangrove ecology and contains footage of some of the other species native to the area (e.g. fiddler crabs and mudskippers). However, the information in this documentary is somewhat outdated and students are not likely to be impressed with the low-quality footage, compared to more modern primate films.

Keywords: Ecological Setting, Social Behavior

Hanuman
Langurs:
Monkeys
of India

Hanuman Langurs: Monkeys of India, 1981

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 29 minutes

Species featured: Semnopithecus dussumieri (Southern Plains Gray Langur)

Narrator: Cy Strange

Film Review: This episode from *The Nature of Things* series examines gray langurs in India, with a focus on monkeys both in forested and urban environments near Mt. Abu in Rajasthan. The narrator addresses basic social behavior, ecology, and group structure, as well as some of the issues associated with urban living (e.g. human-monkey conflict, roadkill). There is also brief discussion of the special status of these monkeys in the Hindu religion. This is a good educational resource for introducing gray langurs or urban monkeys, but the footage is relatively low-quality.

Keywords: Ecology, Forest Habitat, Group Structure, Human-Wildlife Interface, Social Behavior, Urban Context



Rhesus Play, 1977

Author Rating = 3

Instructor Rating, Mean = 4.5 (SD = 0.71; n = 2)

Runtime: 24 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: unknown

Film Review: This film provides in-depth analysis of the form and function of play behavior in rhesus macaques. It includes slow-motion and stop-motion videos of play fights, with explanation of the various behaviors. Although the footage is slightly outdated, the content is still highly relevant. This would be useful for showing to classes to illustrate play behavior in primates.

Keywords: Social Behavior, Play

Behavior
of the
Macaques
of Japan

Behavior of the Macaques of Japan, 1969

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Macaca fuscata (Japanese Macaque)

Narrator: C. R. Carpenter

Film Review: While there are certainly more updated films about Japanese macaques with higher-quality footage, this video has some unique qualities. Foremost, it is interesting from a historical perspective and is narrated by primatologist C. R. Carpenter. Second, it shows at length some of the behaviors that Japanese macaques became known for (potato washing and separating wheat from sand). Finally, the film includes detailed discussion of the negative effects of provisioning macaques heavily over the long term, including dramatically inflated group sizes, increased aggression at the feeding site, and inbreeding resulting in congenital defects. This discussion is accompanied by dramatic footage of birth defects in infants, including one infant with “lobster claws” on all four limbs.

Keywords: Aggression, Behavior, Culture, Inbreeding, Negative Impacts of Food Provisioning, Primate Health

The Rhesus
Monkeys of
Cayo
Santiago,
Puerto Rico

The Rhesus Monkeys of Cayo Santiago, Puerto Rico, 1966

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 33 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: unknown

Film Review: This documentary focuses on the research colony of macaques that was established at Cayo Santiago on the island of Puerto Rico. Rhesus monkeys are not native to this part of the world which limits the generalizability of the facts presented in this film to native populations of macaques. The narrator goes into significant detail describing the Cayo Santiago habitat, including the location, climate, and ecology of the island. Although these macaques are free-ranging, it should be noted that they are regularly provisioned at feeding stations around the island. This may be a useful film for educating students specifically about Cayo Santiago macaques, but would require some commentary from the instructor to clarify some facts (e.g. rhesus macaques are not totally vegetarian) and to update some outdated terminology. *Monkey Island* (1991) provides a more recent account of the Cayo Santiago monkeys, and more recent films such as *Meet the Monkeys* (2014) would be better suited for a general introduction to macaques.

Keywords: Behavior, Ecological Setting

The
Monkeys of
Mysore: A
South Indian
Primate
Society

The Monkeys of Mysore: A South Indian Primate Society, 1964

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 19 minutes

Species featured: Macaca radiata (Bonnet Macaque)

Narrator: Anthony Ostroff

Film Review: This film provides a straightforward presentation of information about behavior and ecology in bonnet macaques. However, the information and footage in this video is outdated which is to be expected from educational documentaries from the 1960s. Educators interested in using this video would need to provide appropriate context, including updated research on bonnet macaques.

Keywords: Behavior, Ecology

The
Rhesus
Monkey in
India

The Rhesus Monkey in India, 1962

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 22 minutes

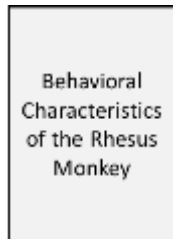
Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: unknown

Film Review: The narration is rich with solid science and information about the primates. This particular video summarized some basic macaque behavior and ecology, but largely focuses on the results of a large-scale population study that occurred over nine months. Included in this video are figures about geographical distribution and age-sex breakdown of the

population. The narrator is also forthright about limitations of the study and of the footage. Unfortunately, the footage is low-quality by today's standards. However, this video still provides some interesting insights, particularly into the history of human-macaque interfaces and into the controversial history of macaque exports from India to Europe and the United States.

Keywords: Behavior, Ecology, Export of Monkeys, Human-Wildlife Interface, Population Biology



Behavioral Characteristics of the Rhesus Monkey, 1947

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 11 minutes

Species featured: Macaca mulatta (Rhesus Macaque)

Narrator: C. R. Carpenter

Film Review: C. R. Carpenter's educational video on the rhesus macaque is interesting from a historical perspective, but is not the best available resource for educational contexts. The black-and-white footage is grainy, and the narration is out of sync with video footage. *Monkey Island* (1991) is a more recent documentary on the macaques of Cayo Santiago, and the *Monkey Planet* (2014) mini-series highlights macaques in their native habitats.

Keywords: Behavior

New World Monkeys



Saved from Extinction: Tamarins Under Siege, 2012

Author Rating = 4

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 48 minutes

Species featured: Leontopithecus rosalia (Golden Lion Tamarin)

Also included: Callithrix spp.

Narrator: Patrick Florsheim

Film Review: The conservation challenges facing tamarins have been addressed in previous documentaries (e.g. *Before it's Too Late: Mini Monkeys of Brazil*), but this film is unique in part because of its intense focus on the golden lion tamarin and its coverage of the extraordinary measures that have been taken to bring the species back from the brink of extinction. In addition to the conservation challenges often cited in primate documentaries (habitat loss and fragmentation, pet trade, etc.), this episode addresses issues that are less well known, such as the dangers of inbreeding, the importance of maintaining genetic diversity, and competition between native primates and introduced primate species. This is an excellent resource for familiarizing students with some of these lesser-known conservation issues, and for illustrating the extreme measures taken to preserve critically endangered species.

Keywords: Captive Breeding Programs, Conservation, Genetic Diversity, Habitat Fragmentation, Habitat Loss, Inbreeding, Pet Trade, Reintroduction



The Nature of Things: Uakari: Secrets of the Red Monkey, 2009

Author Rating = 4

Instructor Rating, Mean = 5 (SD = N/A; n = 1)

Runtime: 44 minutes

Species featured: Cacajao calvus (Bald-headed Uakari)

Narrator: Mark Bowler

Film Review: This film is one of a small number of documentaries that feature the uakari in detail. It provides excellent coverage of what is known about uakari social behavior, habitat, food preferences, and conservation issues. However, due to the fact that uakari typically occupy the upper canopy of the forest, much of the footage is obscured by foliage or shot from afar. Nevertheless, this is a useful tool for introducing students to uakari behavioral ecology and the Lago Preto Conservation Concession in Peru where the majority of this film takes place.

Keywords: Conservation, Ecological Setting, Ecology, Social Behavior



New World Monkeys, 2003

Author Rating = 3

Instructor Rating, Mean = 3.25 (SD = 1.50; n = 4)

Runtime: 47 minutes

Species featured: Alouatta palliata (Mantled Howler Monkey), Ateles geoffroyi (Geoffroy's Spider Monkey), Cebus capucinus (White-headed Capuchin)

Also included: a wide variety of captive New World monkeys

Narrator: Anne Zeller

Film Review: Like most of the films in the Documentary Educational Resources series, this documentary contains excellent and informative narration. Zeller gives a broad introduction to the New World Monkeys, encompassing taxonomy, morphology, ecology, and behavior. However, the quality of the video footage is lacking. Specifically, the footage of wild primates is often shaky, grainy, or out-of-focus, and delivery of narration is not engaging. Film of captive primates is frequently used and compensates for some of these shortcomings with close-up footage of primates that are difficult to film in wild (e.g. *Leontopithecus rosalia*, *Callimico goeldi*).

Keywords: Behavior, Ecology, Morphology, Taxonomy



Before It's Too Late: Mini Monkeys of Brazil, 2000

Author Rating = 4

Instructor Rating, Mean = 5 (SD = N/A; n = 1)

Runtime: 54 minutes

Species featured: Brachyteles hypoxanthus (Northern Muriqui), Leontopithecus rosalia (Golden Lion Tamarin)

Also included: Lagothrix lagotricha (Common Woolly Monkey),

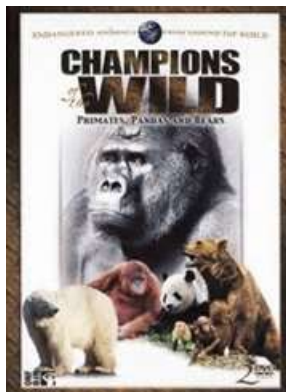
Mico chrysoleuca (Gold-and-White Marmoset), various other Brazilian monkeys

Narrator: unknown

Film Review: This documentary focuses on the precarious future of many endangered monkey species in Brazil and is a good resource for educating students about the general conservation issues facing South American primates. Various threats to survival are addressed, including

habitat loss and fragmentation, pet trade, pollution, logging, and illegal resource exploitation. Tactics for ensuring the survival of these species are also discussed, including captive breeding programs, working with local people, and building corridors to connect fragments. However, some errors were made in the identification of species shown on the screen (e.g. the narrator referred to a gold-and-white marmoset, *Mico chrysoleuca*, as a “silvery tamarin”).

Keywords: Captive Breeding Programs, Conservation, Habitat Fragmentation, Habitat Loss, Local Outreach, Pet Trade, Reintroduction



Champions of the Wild: Costa Rican Monkeys, 1999

Author Rating = 4

Instructor Rating, Mean = 4 (SD = 0; n = 2)

Runtime: 23 minutes

Species featured: Cebus capucinus (White-headed Capuchin)

Also included: Alouatta palliata (Mantled Howler Monkey), *Ateles geoffroyi* (Geoffroy's Spider Monkey)

Narrator: Andrew Gardner

Film Review: This episode from the *Champions of the Wild* series focuses on primatologist Linda Fedigan's research on three monkey species in Costa Rica. The primary emphasis is on capuchins, with some coverage of spider monkeys and howler monkeys. This episode addresses conservation issues, and specifies how those issues impact species differently. Overall, this a good introduction to a few New World monkeys, their behavior, and some of the conservation challenges in the region.

Keywords: Behavior, Conservation, Researcher Profile



Gremlins: Faces in the Forest, 1998

Author Rating = 4

Instructor Rating, Mean = 4.35 (SD = 0.78; n = 23)

Runtime: 57 minutes

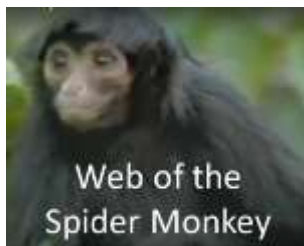
Species featured: Mico chrysoleuca (Gold-and-White Tamarin), *Mico saterei* (Sateré Marmoset)

Also included: Mico humeralifer (Black And White Tassel-ear Marmoset), *Lagothrix lagotricha* (Common Woolly Monkey), *various others*

Narrator: Keith David

Film Review: This installment in the *Nature* series focuses on primates in Brazil, and marmosets in particular. There is a great deal of footage of a large number of marmoset species. Highlights of the film include the documenting of a previously unknown Sateré's marmoset (*Mico saterei*) and footage of several marmosets giving birth. This documentary also contains footage of the local Sateré-Mawé people.

Keywords: Behavior, Birth, Documentation of New Species



Web of the Spider Monkey, 1998

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 43 minutes

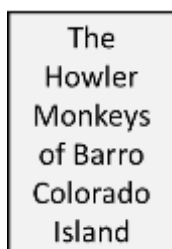
Species featured: Ateles fusciceps (Brown-headed Spider Monkey)

Also included: Cacajao calvus (Bald-headed Uakari), *Lagothrix lagotricha* (Common Woolly Monkey), *Pithecia irrorata* (Gray's Bald-faced Saki)

Narrator: Joss Ackland

Although the title implies a focus on the spider monkey, this film is really about the interconnectedness of the Amazonian rainforest. Spider monkeys (and several other monkey species) are presented in their role as seed dispersers and predators, but are not given much more attention than toucans, agouti, and other animals. One rather unusual aspect of this film is that the location is only identified broadly as “Amazonia” and the forest and animals are presented as though they exist free from human influence, which is certainly not the case. Nevertheless, this is a useful resource for introducing concepts of primate feeding ecology and for demonstrating the various ways that primates help and harm forest flora.

Keywords: Ecological Setting, Feeding Ecology



The Howler Monkeys of Barro Colorado Island, 1967

Author Rating = 3

Instructor Rating, Mean = 3 (SD = 0.00; n = 3)

Runtime: 27 minutes

Species featured: Alouatta palliata (Mantled Howler Monkey)

Narrator: C. R. Carpenter

Film Review: This documentary is from primatologist C. R. Carpenter's Primate Studies film series. As such, it has interesting historical context. It is unique in its depiction of howler monkey behavior beyond just their hallmark vocalizations. At a couple of points in the video, Carpenter also invites the viewer to engage with the video by suggesting that they attempt to count and categorize (by age and sex) monkeys. This is a useful teaching technique that could be applied to other videos as well. However, the footage (recorded in 1959) is in grainy black and white, often making it difficult to see details, thus seriously limiting the usefulness of this video.

Keywords: Behavior

Lemurs, Lorises, and Tarsiers



Island of Lemurs: Madagascar, 2014

Author Rating = 4

Instructor Rating, Mean = 3.88 (SD = 0.86; n = 17)

Runtime: 41 minutes

Narrator: Morgan Freeman

Species featured: Prolemur simus (Greater Bamboo Lemur)

Also included: Indri indri (Indri), *Lemur catta* (Ring-tailed Lemur),

Propithecus coquereli (Coquerel's Sifaka), *Propithecus verreauxi* (Verreaux's Sifaka)

Film Review: The focus of this film is on the endangered lemurs of Madagascar and the researchers addressing challenges to their conservation. While some of the more telegenic lemurs such as indri and sifaka are featured, there is also great coverage of the lesser known greater bamboo lemur. Morgan Freeman's narration is sure to hold the audience's attention.

Keywords: Behavior, Conservation, Ecology



Wild Things with Dominic Monaghan: The Slow Loris, 2014

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 40 minutes

Species featured: Nycticebus coucang (Greater Slow Loris)

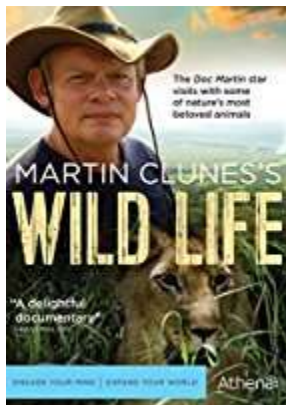
Also included: Macaca fascicularis (Long-tailed Macaque)

Narrator: Andrew Gardner

Film Review: The beginning of the film shows presenter Dominic Monaghan (better known as Merry from *The Lord of the Rings* series) touring Bangkok, and engaging in activities that have no relevance to wildlife. Later in the film, Monaghan is featured inappropriately interacting with animals by prodding them with sticks, handling primates, and feeding primates. Slow lorises are not shown until the last five minutes of the episode. Monaghan shines lights directly at the loris and picks the animal out of its tree. This film has no educational value from a primatological perspective, except perhaps to showcase inappropriate interactions with wildlife.

Keywords: Improper Interactions with Wildlife

Educator Discretion Advised: Inappropriate Interaction with Wildlife



Martin Clunes's Wild Life: The Lemurs of Madagascar, 2012

Rating = 4

Instructor Rating, Mean = N/A

Runtime: 48 minutes

Species featured: Indri indri (Indri), Prolemur simus (Greater Bamboo Lemur), Varecia variegata (Black-and-white Ruffed Lemur)

Also included: Hapalemur alaotrensis (Alaotra Reed Lemur), Propithecus perrieri (Perrier's Sifaka)

Host: Martin Clunes

In a departure from the typical focus of most lemur documentaries (i.e. ring-tailed lemurs and Verreaux's sifaka), this episode featured some of the lesser known lemur species, such as Perrier's sifaka, the greater bamboo lemur, and several other highly endangered species that are difficult to locate in the wild. Overall, relatively little of the runtime of this episode is devoted to actual wild lemur footage. There is extensive footage of Martin Clunes and guides trying to locate lemurs, which provides some insight into field conditions and challenges associated with studying highly endangered animals. In addition, there is in-depth and insightful discussion of conservation challenges associated with lemurs. For example, a representative from the Durrell Foundation talks to Clunes about how crashing fish populations in Madagascar lakes are driving an increased demand for rice, which increases the clearing of land for rice cultivation, which threatens lemurs via habitat loss. This is a good resource for understanding conservation challenges and for introducing lesser-known lemur species.

Keywords: Conservation, Field Conditions, Habitat Loss, Local Context



Nature Tracks: Jungle Jive, 2011

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 27 minutes

Species featured: various lemurs

Narrators: Terry Norton and Michael McCabe

Film Review: The first 7 minutes of this video feature a disjointed collection of facts unrelated to lemurs. Topics range from thermoregulation of crocodiles to attempted domestication of eland. The footage of lemurs is very

poor quality (dark, out of focus, and distant) and such that it is often difficult to distinguish the type of lemur being shown. Further, the content is misleading and sometimes inaccurate (for example, the narrator refers to the lemurs as “monkeys”).

Keywords: Behavior

Educator Discretion Advised: Inaccurate Content



Tarsier: The Littlest Alien, 2010

Author Rating = 4

Instructor Rating, Mean = 3.5 (SD = 0.71; n = 2)

Runtime: 46 minutes

Species featured: Tarsius syrichta (Philippine Tarsier)

Narrator: Jacob Rajan

Film Review: This is a great overview of tarsiers, with a specific focus on the Philippine tarsiers. The documentary addresses tarsier social structure, ecology, biology, and behavior. The film also introduces the myriad factors

currently threatening tarsier survival. The show highlights the extensive knowledge of local people about wildlife and how this can be of value to advancing scientific understanding of wild primates. Researcher Irene Arboleda mentions some of the challenges of field work, such as spending time away from family and overcoming unanticipated problems (e.g. GPS being too imprecise to use in this context).

Keywords: Behavior, Biology, Conservation, Ecology, Field Conditions, Local Outreach, Researcher Profile, Social Structure



Last Chance to See: Aye-aye, 2009

Author Rating = 5

Instructor Rating, Mean = N/A

Runtime: 59 minutes

Species featured: Daubentonia madagascariensis (Aye-aye), Eulemur fulvus (Brown Lemur), Indri indri (Indri), Lemur catta (Ring-tailed Lemur), Propithecus verreauxi (Verreaux's Sifaka)

Also included: Microcebus berthae (Madame Berthe's Mouse Lemur)

Hosts: Stephen Fry and Mark Carwardine

Film Review: This episode is a good resource about lemurs more generally, with some information on aye-ayes. The presenters discuss interesting aspects of lemur behavior and ecology, as well as some of the history of primatology. Conservation challenges are addressed realistically while remaining hopeful, and without depicting local development in a negative manner.

Keywords: Behavior, Conservation, Ecology



Lemur Street (series), 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: see individual episodes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: This series follows two groups of ring-tailed lemurs (the “Tornado Troop” and the “Graveyard Gang”) in Berenty Reserve in southeastern

Madagascar. It was produced by the makers of *Meerkat Manor*, and follows a similar format.

Individual lemurs are identified by name, and dramatic arcs involving individuals are followed through the course of the episodes, in a similar format to a soap opera. The footage is excellent.

However, the narrative structure lends itself to anthropomorphism and overly dramatizing relatively straightforward events. Also, despite the extreme conservation challenges faced by all wildlife in Madagascar, the narrator never directly mentions conservation.

Keywords: Dominance, Dry Season, Feeding Ecology, Mating, Social Behavior



Lemur Street, season 1, episode 1: Sleeping with the Enemy, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: The first episode of this series introduces the two ring-tailed lemur groups that are the focus of the show. The Tornado Troop and the smaller Graveyard Gang sometimes conflict over resources. One such conflict is the focus of this episode. Two males conflict over access to a female, highlighting different mating strategies that males use. Social behaviors such as scent marking, scent wafting, and grooming are also highlighted.

Keywords: Mating, Scent Marking, Social Behavior



Lemur Street, season 1, episode 2: The Mating Game, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: The second episode of this series continues the previous episode’s focus on the mating season for ring-tailed lemurs at Berenty Reserve in Madagascar. Intergroup and intragroup conflict are highlighted, as males compete for access to receptive females. Surprisingly, a male who is missing one of his feet is successful at mating with the alpha female. As with the first episode, this episode demonstrates how different mating strategies can be successful for male lemurs.

Keywords: Mating, Scent Marking, Social Behavior



Lemur Street, season 1, episode 3: Stormy Weather, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: In the first two episodes of this series, the two featured ring-tailed lemur groups were presented as though they existed relatively independent of humans. In this episode, lemurs are shown raiding a tourist camp and interacting with tourists. This presents a somewhat more balanced view of the lives of ring-tailed lemurs in southeastern Madagascar. Another focal point of this episode is a storm and the lemurs' dislike of the rain. After the previous two episodes' focus on the mating season, this episode is relatively uneventful.

Keywords: Human-Wildlife Interaction, Social Behavior



Lemur Street, season 1, episode 4: Victim of Circumstance, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: This episode primarily follows an infant ring-tailed lemur who seriously injures his leg in an aggressive interaction with another young lemur. The storyline highlights some of the challenges facing injured primates (e.g. difficulty keeping up with the group, trouble climbing into the sleeping tree, fatigue, and increased susceptibility to predation). However, some of these difficulties were likely exaggerated for dramatic effect. For instance, footage of a large snake was spliced together with footage of the injured lemur as the narrator described the lemur being in danger. However, the two animals were never shown together, suggesting misleading editing. In addition to difficulties with injury, this episode highlights different mothering styles among lemurs. The injured lemur's mother is shown as aloof and absent while some of the other mothers in the group are attentive and caring to their offspring.

Keywords: Injury, Parenting, Predation, Social Behavior



Lemur Street, season 1, episode 5: Gizmo's Fate, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: Continuing a storyline from the previous episode, this episode follows an injured infant lemur as he tries to keep up with his group. He is ultimately unsuccessful, and dies from complications of his injury. As with the previous episode, different parenting styles are highlighted as one mother dotes on her infant and the injured infant's mother provides him little care or assistance. This episode also features a lemur group being chased by dogs, but escaping successfully.

Keywords: Death, Injury, Parenting, Predation, Social Behavior



Lemur Street, season 1, episode 6: Home Alone, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: In this episode the main storyline follows a young lemur who becomes separated from his group and has to get by on his own. In addition, mating season is featured, along with the male-male conflicts that arise over access to mates. There is interesting footage of mate-guarding, and of some aggressive interactions that occur between males over access to a receptive female. Humans are prominently featured in this episode, using large tractors to harvest and till fields, providing some idea of the extent of overlap between humans and lemurs in Madagascar.

Keywords: Human-Wildlife Interface, Mating, Social Behavior



Lemur Street, season 1, episode 7: The Rovers Return, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: This series generally underemphasizes the role that humans have had and continue to have in altering Madagascar's ecology, and conservation issues are typically ignored. Both things are particularly true in this episode, which discusses the impact that a fire had on one lemur group's ranging and social behavior over the course of a day. However, no mention was made of the source of the fire, which was almost certainly caused or exacerbated by slash-and-burn agricultural practices. This episode also continues the previous episode's storyline of a young lost lemur. In this episode he is happily reunited with his group after spending a night alone. Finally, the mating season continues with conflicts among males over access to females.

Keywords: Human-Wildlife Interface, Mating, Ranging, Social Behavior



Lemur Street, season 1, episode 8: Harvest Havoc, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: Up until this episode, there has been little mention of the conservation challenges faced by Madagascar's wildlife, despite some situations where discussion of these issues was obviously appropriate (e.g. with the fire in episode 7). The topic of conservation is finally touched upon in this episode, which focuses on the disruption caused to the lemurs by the annual hay harvest that occurs on agricultural land within their range. However, the discussion of conservation is incomplete because it mentions only the disruption caused by human activity and

not the other, larger issue of habitat loss and habitat fragmentation as a result of agricultural activities. Also in this episode (as with the previous episode), another young lemur is separated from the group and has some difficulty relocating them but is ultimately reunited with her mother; in addition, the drama of the mating season continues.

Keywords: Conservation, Human-Wildlife Interface, Mating, Social Behavior



Lemur Street, season 1, episode 9: The Enemy Within, 2008

Author Rating = 4

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: This episode contains some unusual events, including a change in the female dominance hierarchy and a well-documented birth. Regarding dominance, the highest-ranking female (Electra) of one group is deposed, and Electra drops to the lowest position in the dominance hierarchy. Around the same time, Electra prematurely gives birth to a male infant. The footage of the birth is remarkable for the up-close look it provides. This is a good resource for conveying the difficulty and vulnerability of giving birth and caring for an extremely young infant in the wild.

Keywords: Aggression, Birth, Dominance, Dry Season, Social Behavior



Lemur Street, season 1, episode 10: Mother Nature, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: This episode follows Electra, who gave birth to an infant male in the previous episode, following her removal from the top-ranking position in the Tornado Troop. Electra no longer receives social support from her group, and she struggles to recover from childbirth while caring for her premature infant alone. Her infant dies after less than two days, and she remains with his body for a long time, grooming and inspecting him. In contrast, a young infant whose mother is better integrated into the group is shown being groomed by two females. This episode highlights some of the advantages of group living and the negative consequences that can arise from being ousted from the group.

Keywords: Death, Dominance, Social Behavior



Lemur Street, season 1, episode 11: Boiling Point, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: In this episode the Graveyard Gang fissions into two groups due to the pressures of finding adequate food during the dry season. Crystal, the highest-ranking female in the

Graveyard Gang, gives birth to her first infant and struggles to find enough food to recover from childbirth and provide milk for her new infant. Other lemurs show some of the health effects of malnutrition, such as weight loss.

Keywords: Dry Season, Feeding Ecology, Fission, Social Behavior



Lemur Street, season 1, episode 12: Trouble at Home, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: Following the fission of the Graveyard Gang in the previous episode, there is some social tension in this episode, particularly over access to scarce food resources. One high-ranking female who has given birth overnight has also suffered an injury and is bleeding from her ear – the narrator speculates that she was attacked while giving birth. As the dry season lingers, lemurs are shown foraging in trash bins at a tourist camp.

Keywords: Dry Season, Feeding Ecology, Fission, Human-Wildlife Interface, Social Behavior



Lemur Street, season 1, episode 13: A Poisonous Secret, 2008

Author Rating = 4

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: The main focus of this episode is a fascinating detail of ring-tailed lemur feeding ecology. During the dry season, lemurs are eating *Leucaena*, an invasive plant species with toxic properties that cause their fur to fall out. In addition, there is another instance of great footage of a ring-tailed lemur giving birth (as there was in episode 9). The challenges of finding enough food in the dry season intensify with the addition of more newborn infants.

Keywords: Birth, Dry Season, Feeding Ecology, Social Behavior



Lemur Street, season 1, episode 14: A Matter of Life and Death, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: This episode continues the theme of the previous several episodes, as the ring-tailed lemurs attempt to find adequate food during the dry season. This leads to them eating non-optimal food resources such as the toxic *Leucaena* plant, having intergroup conflict over access to food resources, and foraging in the trash at a tourist camp. Unfortunately the narrator refers to the trash-rummaging lemurs as “trailer trash,” which is inappropriate for educational contexts. Also in this episode, a young, ill lemur is abandoned by her mother and repeatedly cries for help.

An adult female lemur who already has her own infant attempts to help the abandoned infant, but the ill lemur cannot hold on to her, and the adult leaves the infant behind. The infant dies shortly thereafter, and is carried off by a bird. Other than the instance of insensitive language, this episode is useful for illustrating the challenges of dry season living.

Keywords: Death, Dry Season, Feeding Ecology, Illness, Social Behavior



Lemur Street, season 1, episode 15: Sifaka Showdown, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Also included: Propithecus verreauxi (Verreaux's Sifaka)

Narrator: Martin Shaw

Film Review: As the dry season lingers in this episode, the ring-tailed lemurs are shown having increased conflict among themselves as well as with other lemur species, which they are encountering at higher rates because all the animals are trying to access scarce food resources. In this episode, the ring-tailed lemurs primarily interact with the sifaka, which are relatively docile and easily displaced. The ring-tailed lemurs are also shown briefly interacting with brown lemurs, who are more assertive and have reportedly preyed on ring-tailed lemur infants in the past. Previous episodes have highlighted the effects of the dry season on ranging behavior, overall health, and feeding ecology; this episode focuses more on the dry season's consequences for lemur social life.

Keywords: Dry Season, Interspecies Interaction, Social Behavior



Lemur Street, season 1, episode 16: Enemy at the Gate, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: In this episode, ring-tailed lemurs continue to bear the dry season, which the narrator describes as "the worst drought in a decade." Competition for resources results in a minor conflict between the series' two featured groups, the Graveyard Gang and the Tornado Troop. Electra, previously the highest-ranking female of the Tornado Troop before being deposed by Amazon, continues to survive on her own.

Keywords: Dry Season, Social Behavior



Lemur Street, season 1, episode 17: Foreign Lands, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: As the drought continues in this episode, the ring-tailed lemurs expand their typical range in order to access more food resources. This brings them into contact with an unfamiliar forest group, resulting in a minor conflict. As in episodes 13 and 14, the lemurs are again shown eating the invasive and toxic *Leucaena* plant. This episode covers several interesting consequences of dealing with a drought – extended daily path lengths, atypical ranging patterns, increased social conflict both within and between groups, and consumption of non-optimal food resources. Toward the end of the episode, a lightning storm ignites a forest fire, causing the lemurs to flee during the night. As with the fire in episode 7, the narrator’s discussion of the factors contributing to the fire did not include any mention of human factors, e.g. how the clearing of land for agriculture can result in land more susceptible to burning; however, conservation issues such as this are rarely discussed in this show.

Keywords: Dry Season, Feeding Ecology, Social Behavior



Lemur Street, season 1, episode 18: A Friend in Need, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: In the previous episode, a fire caused the Graveyard Gang to scatter. This episode chronicles their efforts to reunite and get back into their usual territory after the fire. When they finally reach their usual territory, another group (the Tornado Troop) is already there, and a minor conflict ensues, with the Graveyard Gang eventually displacing the Tornado Troop. Also in this episode, the ring-tailed lemurs have an amusing interaction with a tortoise.

Keywords: Dry Season, Interspecies Interaction, Social Behavior



Lemur Street, season 1, episode 19: Lost Souls, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: In this episode, Electra, who was ousted from the Tornado Troop in episode 9, finally reinserts herself into the group after surviving on her own for most of the dry season. Amazon, the current highest-ranking female in the Tornado Troop, loses track of her infant, Orinoco. At the end of the episode Orinoco is still alone in the forest, making contact calls. Also in the episode, a large number of people converge on the territory of the Graveyard Gang, causing disruptions to that group’s typical behavior. Finally, the ring-tailed lemurs have an entertaining interaction with a tenrec.

Keywords: Dry Season, Human-Wildlife Interface, Interspecies Interaction, Social Behavior



Lemur Street, season 1, episode 20: Trading Places, 2008

Author Rating = 3

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 22 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Martin Shaw

Film Review: A lot of action unfolds in the series finale of *Lemur Street*. Local people enter the graveyard to exhume the remains of their ancestors, which results in substantially altering the graveyard, e.g. leaving behind large holes in the ground. Shortly after the people leave, the Graveyard Gang abandons the graveyard and moves into new territory and the Tornado Troop moves in to the graveyard. Also in this episode, Amazon is reunited with Orinoco, her infant son, after he spends a day lost and alone in the forest. Also, Electra helps her group to avoid a large snake after she spots it on the ground. At the conclusion of the show, the dry season ends with a heavy rain, and the lemurs are shown eating flowers and new leaves. While this sequence of events made for an action-packed final episode, it is somewhat unlikely that all of these things occurred in such a short period of time.

Keywords: Dry Season, Human-Wildlife Interface, Interspecies Interaction, Ranging, Social Behavior



Be the Creature: Lemurs of Madagascar, 2003

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 47 minutes

Species featured: Indri indri (Indri), *Lemur catta* (Ring-tailed Lemur), *Prolemur simus* (Greater Bamboo Lemur), *Propithecus verreauxi* (Verreaux's Sifaka)

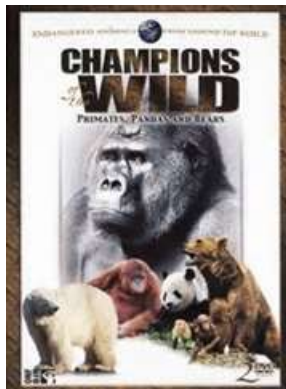
Also featured: various lemur species

Hosts: Martin and Chris Kratt

Film Review: Martin and Chris Kratt are brothers who host wildlife specials that feature inappropriate interactions with wildlife (such as animal handling) and behavior disruptive within natural habitats (such as running, yelling, and climbing trees). However, the show does feature good footage of a large number of lemur species, and provides a great deal of detailed and informative information about lemur behavior and ecology. The enthusiastic, fast-paced tone of the show are more suitable for a younger audience.

Keywords: Behavior, Ecology

Educator Discretion Advised: For Elementary/Primary School Audience, Inappropriate Interaction with Wildlife



Champions of the Wild: Ring-tailed Lemurs, 2001

Author Rating = 4

Instructor Rating, Mean = 3.5 (SD = 0.71; n = 2)

Runtime: 26 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Narrator: Andrew Gardner

Film Review: Lisa Gould's work with ring-tailed lemurs in the Beza Mahafaly Reserve is the focus of this *Champions of the Wild* episode. This episode is full of good information about lemur ecology and behavior. It also provides a strong conservation message with an emphasis on local conservation initiatives.

Keywords: Behavior, Conservation, Ecology, Local Context, Researcher Profile



Cousins: First Primates, 2000

Author Rating = 4

Instructor Rating, Mean = N/A

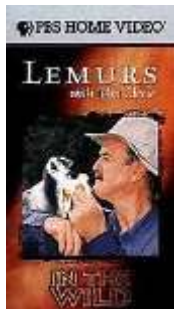
Runtime: 49 minutes

Species featured: Eulemur macaco (Black Lemur), Galago moholi (Southern Lesser Galago), Indri indri (Indri), Lemur catta (Ring-tailed Lemur), Propithecus verreauxi (Verreaux's Sifaka), Varecia variegata (Black-and-white Ruffed Lemur)

Also included: Cheirogaleus medius (Fat-tailed Dwarf Lemur), Daubentonia madagascariensis (Aye-aye), Eulemur fulvus (Brown Lemur), Gorilla beringei (Eastern Gorilla), Hapalemur alaotrensis (Alaotra Reed Lemur), Microcebus myoxinus (Peters' Mouse Lemur), Pan troglodytes (Chimpanzee), Prolemur simus (Greater Bamboo Lemur)
Host: Charlotte Uhlenbroek

Film Review: This is the first episode of a 3-part BBC series about primates. As with most products of the BBC Natural History unit, this is a high-quality documentary with excellent footage and insightful narration. There is good information about primate diversity, with a focus on prosimians and the origins of primates. In addition to the most commonly featured lemurs (e.g. ring-tailed lemurs, sifaka), this episode also showcases some of the lesser-known taxa (e.g. bamboo lemurs, fat-tailed dwarf lemurs). From an educational perspective, this is a good introduction for explaining primate origins and diversity. However, the presenter's high encounter rate with rare primates may be misleading with regards to the actual abundance of these highly endangered animals.

Keywords: Behavior, Conservation, Ecology, Evolution, Taxonomy



Lemurs with John Cleese, 1999

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 53 minutes

Species featured: Varecia variegata (Black-and-white Ruffed Lemur)

Also included: Daubentonia madagascariensis (Aye-aye), Lemur catta (Ring-tailed Lemur), Propithecus verreauxi (Verreaux's Sifaka)

Host: John Cleese

Film Review: The focus of the film was intended to be on the introduction of five black-and-white ruffed lemurs from the Duke Lemur Center into the wild in Madagascar. However, much of the film actually focuses on the struggles of John Cleese in the field. In that regard, the film provides an insightful view of fieldwork conditions and some of the challenges that field researchers encounter when working with film crews. The film includes a substantial amount of captive lemur footage to compensate for the limited footage of wild lemurs. Some obvious etiquette for observing and respecting wild primates is ignored, and should be discussed with students when showing this video. Inappropriate interactions with wildlife include Cleese feeding a lemur from his own mouth and handling that results in his being bitten by a lemur. The use of explicit language may be inappropriate for some educational settings.

Keywords: Field Conditions, Presenter Profile, Reintroduction

Educator Discretion Advised: Explicit Language, Inappropriate Interaction with Wildlife



A Lemur's Tale, 1997

Author Rating = 4

Instructor Rating, Mean = 4.09 (SD = 0.87; n = 22)

Runtime: 55 minutes

Species featured: Lemur catta (Ring-tailed Lemur)

Also included: Eulemur fulvus (Brown Lemur), Propithecus verreauxi (Verreaux's Sifaka)

Narrator: George Page

Film Review: This *Nature* special focuses on a single group of ring-tailed lemurs over the course of almost a year. There is a relatively limited discussion of lemur ecology and behavior, with most of the focus on three unusual infant lemurs – a set of twins and one white infant with bright blue eyes. The limited focus on behavior does include some interesting highlights such as scent-marking, interspecific interactions, and weaning tantrums. The lemurs are presented as though they live in relatively pristine wilderness, with only one scene showing humans and cattle accompanied by a brief, incomplete discussion of Madagascar's conservation concerns. The footage is high-quality, and it is overall a good film despite some shortcomings.
Keywords: Ecology, Behavior, Interspecific Interaction, Twin Infants



Lemurs from Madagascar, 1997

Author Rating = 2

Instructor Rating, Mean = 4 (SD = 0.00; n = 3)

Runtime: 52 minutes

Species featured: Cheirogaleus major (Greater Dwarf Lemur), Eulemur fulvus (Brown Lemur), Eulemur rubriventer (Red-bellied Lemur), Hapalemur griseus (Lesser Bamboo Lemur), Indri indri (Indri), Lemur catta (Ring-tailed Lemur), Microcebus rufus

(Rufous Mouse Lemur)

Also included: Propithecus sp.

Narrator: Anne Zeller

Film Review: Like most of the films in the Documentary Educational Resources series, this documentary contains excellent and informative narration covering taxonomy, evolution, behavior, and ecology. However, the quality of the video footage is lacking. Specifically, the footage of wild primates is often shaky, grainy, or out-of-focus, and delivery of narration is not engaging. Film of captive primates is frequently used and compensates for some of these shortcomings with close-up footage of primates that are difficult to film in wild. The inclusion of footage of nocturnal primates being spotlighted and photographed using flash photography is ethically questionable.

Keywords: Behavior, Ecology, Evolution, Taxonomy



Sifakas from Madagascar, 1997

Author Rating = 3

Instructor Rating, Mean = 3 (SD = N/A; n = 1)

Runtime: 22 minutes

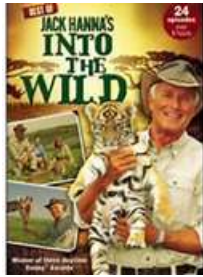
Species featured: Propithecus diadema (Diademed Sifaka), Propithecus verreauxi (Verreaux's Sifaka)

Narrator: Anne Zeller

Film Review: This video by Anne Zeller for Documentary Educational Resources contains a lot of useful and detailed information about sifaka ecology, biology, and behavior. However, the footage, while authentic, is fairly low-quality and grainy. Unfortunately, this video is unlikely to hold the attention of students. Educators are referred to other documentaries for higher quality footage of sifakas, such as the “First Primates” episode of *Cousins* (2000) and the “Aye-aye” episode of *Last Chance to See* (2009).

Keywords: Behavior, Biology, Ecology

Various Species



Jack Hanna's Into the Wild: Best of the Great Apes, 2015

Author Rating = 3

Instructor Rating, Mean = N/A

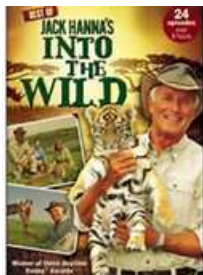
Runtime: 20 minutes

Species featured: *Gorilla beringei* (Eastern Gorilla), *Gorilla gorilla* (Lowland Gorilla), *Pan troglodytes* (Chimpanzee), *Pongo pygmaeus* (Bornean Orangutan)

Host: Jack Hanna

Film Review: This episode overlaps substantially with *Jack Hanna's Wildest Countdown: Greatest Apes*. The narration is similar, and the episodes use much of the same footage. The coverage of the various great ape species is somewhat superficial because so many locations, species, and topics are covered in such a short episode. Unfortunately, bonobos are almost completely left out aside from a brief mention.

Keywords: Behavior, Ecology



Jack Hanna's Into the Wild: Gabon's Primates, 2015

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 20 minutes

Species featured: various captive species

Host: Jack Hanna

Film Review: The episode focused on primates of Gabon, but all of the footage came from wildlife sanctuaries. Although there were interesting interviews with

keepers who are rehabilitating primates for later release into the wild, it is unfortunate that an episode focused on the primates of such a biodiverse country did not show any footage from the wild. Nevertheless, this show may have some value for students interested in rehabilitating primates.

Keywords: Behavior, Ecology, Rehabilitation, Sanctuary



Xploration Animal Science: All About Primates, 2015

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 20 minutes

Species featured: various captive species

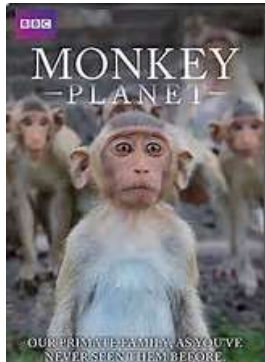
Narrator: Brent Askari

Film Review: Due to multiple inaccuracies and some ethical

concerns, this documentary has little if any value for educational purposes. Incorrect scientific names are used for almost all of the species featured. For example, chimpanzees are referred to as *Simia troglodytes*; gorillas as *Troglodytes gorilla*; and spider monkeys as *Simia paniscus*. There are also ethical concerns about footage included in the documentary, such as captive primates used for entertainment or kept as pets (e.g. chimpanzees wearing clothes; a spider monkey on a leash). The only worthwhile information comes from periodic commentary from scientists such as primatologist Myron Shekelle. However, it would be difficult for students to separate the accurate information from the incorrect and misleading information.

Keywords: Behavior

Educator Discretion Advised: Inaccurate Content, Misleading Content



Monkey Planet: Family Matters, 2014

Author Rating = 4

Instructor Rating, Mean = 3.33 (SD = 1.15; n = 3)

Runtime: 59 minutes

Species featured: *Ateles geoffroyi* (Geoffroy's Spider Monkey), *Chlorocebus pygerythrus* (Vervet Monkey), *Lemur catta* (Ring-tailed Lemur), *Macaca fuscata* (Japanese Macaque), *Macaca sylvanus* (Barbary Macaque), *Pan paniscus* (Bonobo), *Pan troglodytes* (Chimpanzee), *Papio hamadryas* (Hamadryas Baboon), *Saguinus imperator* (Emperor Tamarin), *Theropithecus gelada* (Gelada), *Trachypithecus cristatus*

(Silvery Lutung)

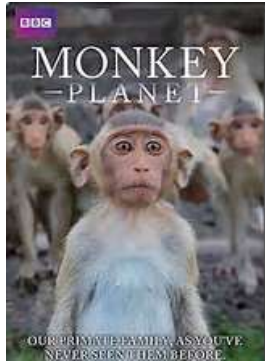
Also included: *Chlorocebus sabaeus* (Green Monkey), *Macaca mulatta* (Rhesus Macaque), *Nasalis larvatus* (Proboscis Monkey), *Propithecus coquereli* (Coquerel's Sifaka)

Host: George McGavin

Film Review: This is part of a 3-episode series produced by the BBC focused on providing an introduction to primates. The series title "Monkey Planet" is a bit of a misnomer, as each of the episodes features apes and lemurs as well as monkeys. This episode focuses on group dynamics in primate groups, including infant care in emperor tamarins, aggression in hamadryas baboons, hierarchy in Japanese macaques, and infant stealing in Barbary macaques. The presenter, George McGavin, also recreates a playback experiment with vervets. McGavin's repeated direct contact with primates (who are either wild or captive animals presented as though they are wild) is concerning and seemingly gratuitous, particularly because he does not comment on the danger of touching wild primates (e.g. disease transmission, danger to the person). Even so, this is a useful educational resource with high-quality footage. There is substantial overlap in the content presented in this series and in BBC's *Cousins* (2000), but *Monkey Planet* is more up-to-date and uses some innovative camera techniques to produce some never-before-seen footage.

Keywords: Aggression, Behavior, Dominance, Ecology, Infant Stealing, Social Structure

Educator Discretion Advised: Inappropriate Interaction with Wildlife



Monkey Planet: Master Minds, 2014

Author Rating = 5

Instructor Rating, Mean = 3.33 (SD = 1.15; n = 3)

Runtime: 59 minutes

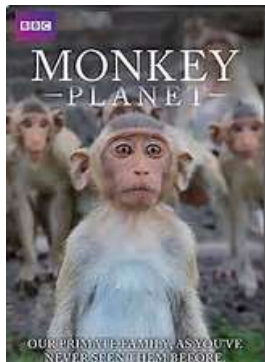
Species featured: Cebus capucinus (White-headed Capuchin), Sapajus nigritus (Black Capuchin), Eulemur macaco (Black Lemur), Gorilla beringei (Eastern Gorilla), Macaca fascicularis (Long-tailed Macaque), Macaca mulatta (Rhesus Macaque), Pan troglodytes (Chimpanzee), Pongo pygmaeus (Bornean Orangutan), Ptilocolobus kirkii (Zanzibar Red Colobus)

Also included: Pan paniscus (Bonobo)

Host: George McGavin

Film Review: This is part of a 3-episode series produced by the BBC focused on providing an introduction to primates. The series title “Monkey Planet” is a bit of a misnomer, as each of the episodes features apes and lemurs as well as monkeys. This is the third installment in the Monkey Planet series, and it focuses on primate intelligence. There is amazing footage of long-tailed macaques using stone tools, flossing with hair, and participating in Thailand’s annual Monkey Buffet. There is also excellent footage of chimpanzees at Kibale and Budongo using different strategies (dipping with a stick versus leaf sponging) to obtain honey from a log, with narration on cultural differences across chimpanzee communities. The series ends with remarkable footage of captive bonobo Kanzi building a fire and roasting marshmallows. There is substantial overlap in the content presented in this series and in BBC’s *Cousins* (2000), but *Monkey Planet* is more up-to-date and uses some innovative camera techniques to produce some never-before-seen footage.

Keywords: Behavior, Cognition, Culture, Tool Use



Monkey Planet: Meet the Family, 2014

Author Rating = 5

Instructor Rating, Mean = 3.33 (SD = 1.15; n = 3)

Runtime: 59 minutes

Species featured: Alouatta pigra (Black Howler Monkey), Cebuella pygmaea (Pygmy Marmoset), Hylobates lar (Lar Gibbon), Macaca fuscata (Japanese Macaque), Macaca mulatta (Rhesus Macaque), Mandrillus sphinx (Mandrill), Papio anubis (Olive Baboon), Papio ursinus (Chacma Baboon), Pongo pygmaeus (Bornean Orangutan), Tarsius syrichta (Philippine Tarsier), Theropithecus gelada (Gelada)

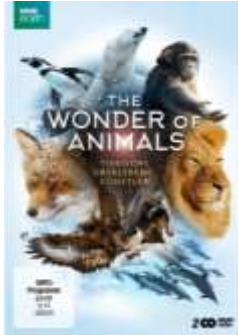
Also included: Propithecus verreauxi (Verreaux's Sifaka)

Host: George McGavin

Film Review: This is part of a 3-episode series produced by the BBC focused on providing an introduction to primates. The series title “Monkey Planet” is a bit of a misnomer, as each of the episodes features apes and lemurs as well as monkeys. This episode is a great introduction to primate diversity because it covers many species, and the presentation is very engaging. Innovative camerawork is part of what makes this documentary so enthralling. Thermal cameras reveal how Japanese macaques stay warm at night, and show changes in blood flow to the aye-aye’s middle finger when foraging versus not foraging. Night vision cameras reveal how one group of baboons settles down for the night in an underground cave. This documentary identifies

featured primates with their proper species names, which is useful for teaching purposes. There is substantial overlap in the content presented in this series and in BBC's *Cousins* (2000), but *Monkey Planet* is more up-to-date and uses some inventive camera techniques to produce some never-before-seen footage.

Keywords: Behavior, Ecology, Infrared Footage



The Wonder of Animals: Great Apes, 2014

Author Rating = 3

Instructor Rating, Mean = 3 (SD = 0.00; n = 2)

Runtime: 27 minutes

Species featured: Pan paniscus (Bonobo), Pan troglodytes (Chimpanzee)

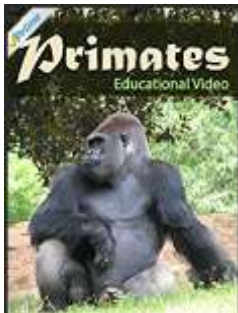
Also included: Pongo abelii (Sumatran Orangutan)

Narrator: Chris Packham

Film Review: This episode focuses on great ape cognition and highlights tool use. Throughout the episode, the host explains some of the neural anatomy related to ape abilities and behaviors. This show could be a useful resource

as an introduction to primate cognition or tool use.

Keywords: Anatomy, Behavior, Cognition, Tool Use



Primates, 2013

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 20 minutes

Species featured: Gorilla beringei (Eastern Gorilla), Pan troglodytes (Chimpanzee)

Also included: Cebus albifrons (White-fronted Capuchin), Chlorocebus aethiops (Givet Monkey)

Narrator: Stefanie Bagby

Film Review: This is an educational video intended to provide an overview of the Order Primates. However, several primate names are mispronounced and words presented on screen are misspelled. The narrator also frames intelligence hierarchically, with humans as the “smartest,” followed by apes, whales, elephants, monkeys, then all other animals. The footage is of mediocre quality, even though much of it likely came from captive contexts. Other overviews of primates (e.g. the “Primates” episode of BBC’s *Life*) are higher quality and more accurate educational resources for introducing students to primates.

Keywords: Behavior, Cognition, Taxonomy

Educator Discretion Advised: Inaccurate Content, Misleading Content



Jack Hanna's Wild Countdown: Greatest Apes, 2012

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 21 minutes

Species featured: Gorilla beringei (Eastern Gorilla), Pan troglodytes (Chimpanzee), Pongo pygmaeus (Bornean Orangutan)

Also included: various captive species

Host: Jack Hanna

Film Review: This episode overlaps substantially with *Jack Hanna's Into the Wild: Best of the Great Apes*. The narration is similar, and the episodes use much of the same footage. This episode is probably most appealing to kids and Hanna enthusiasts. It highlights Hanna's favorite moments filming with great apes over the years, including about equal portions of wild and captive footage. Because it's a brief episode and is a compilation of his seven favorite experiences, the coverage of each place he visits and animal he interacts with is relatively superficial. Hanna includes some discussion of the various conservation challenges facing great apes today. He also includes some humor.

Keywords: Behavior, Cognition, Presenter Profile

Educator Discretion Advised: For Elementary/Primary School Audience



Jack Hanna's Wild Countdown: Monkey Business, 2012

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 20 minutes

Species featured: *Papio ursinus* (Chacma Baboon)

Also included: *Alouatta caraya* (Black-and-gold Howler Monkey), *Nasalis larvatus* (Proboscis Monkey), *various captive species*

Host: Jack Hanna

Film Review: This episode features a substantial amount of captive footage of species that are relatively easy to encounter and film in the wild. The show focuses on rhesus macaques at a game park in the United Kingdom, but does not provide a rationale for showcasing this population when rhesus macaques are so easily observed in the wild. There are some interesting parts, such as the discussion of human-baboon conflict in South Africa, and the use of guards to herd baboons away from conflict zones. Otherwise, this episode is not particularly useful educational resource.

Keywords: Animal Management, Behavior, Human-Wildlife Interface



Life, episode 10: Primates, 2009

Author Rating = 5

Instructor Rating, Mean = 4.22 (*SD* = 0.73; *n* = 83)

Runtime: 49 minutes

Species featured: *Cebus capucinus* (White-headed Capuchin), *Gorilla gorilla* (Lowland Gorilla), *Hylobates lar* (Lar Gibbon), *Lemur catta* (Ring-tailed Lemur), *Macaca fuscata* (Japanese Macaque), *Pan troglodytes* (Chimpanzee), *Papio hamadryas* (Hamadryas Baboon), *Papio ursinus* (Chacma Baboon), *Pongo abelii* (Sumatran Orangutan), *Sapajus apella*

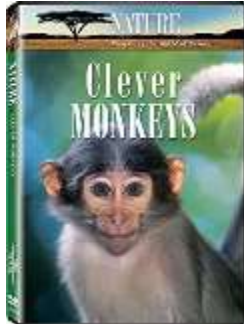
(Black-capped Capuchin), *Tarsius tarsier* (Spectral Tarsier), *Trachypithecus phayrei* (Phayre's Leaf-monkey)

Narrator: David Attenborough

Film Review: This episode of BBC's *Life* series offers an overview of some highlights from the Primate order, including chimpanzees and capuchins using tools, baboons foraging for shark eggs, orangutans constructing rain shelters, macaques soaking in hot springs, and tarsiers hunting insects. The footage is outstanding; David Attenborough's narration is entertaining and informative; and the accompanying musical score is delightful and even humorous at times. This

is an excellent educational resource for introducing students to primates, but selecting certain scenes may also be useful for demonstrating specific behaviors (e.g. buttress drumming in chimpanzees).

Keywords: Behavior, Ecology, Social Behavior, Tool Use



Clever Monkeys, 2008

Author Rating = 5

Instructor Rating, Mean = 4.04 (SD = 0.94; n = 70)

Runtime: 49 minutes

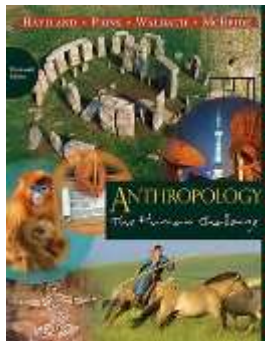
Species featured: Cebus capucinus (White-headed Capuchin), Macaca sinica (Toque Macaque), Theropithecus gelada (Gelada)

Also included: Cebuella pygmaea (Pygmy Marmoset), Papio anubis (Olive Baboon), Sapajus libidinosus (Bearded Capuchin), and others

Narrator: David Attenborough

Film Review: This is a great summary of some of the cognitive abilities of monkeys. The film includes excellent footage of capuchin tool use, predation on and by monkeys, and a segment about the impressive abilities of cross-species communication among colobus monkeys, mangabeys, and guenons. Some of the footage of monkeys alarm-calling “at” predators may have been spliced together with unrelated footage of predator species such as snakes and hawks; however, the discussion of how monkeys respond to predators is more or less accurate. This film is a great educational tool with a lot of valuable information and excellent footage of interesting behaviors.

Keywords: Behavior, Cognition, Communication, Ecology, Predation, Social Behavior, Tool Use



Primate Behavior, 2008

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 27 minutes

Species featured: Cebus capucinus (White-headed Capuchin), Pan troglodytes (Chimpanzee), Papio hamadryas (Hamadryas Baboon), Piliocolobus kirkii (Zanzibar Red Colobus)

Also included: Papio ursinus (Chacma Baboon), Semnopithecus entellus (Northern Plains Gray Langur)

Narrator: Camille Dixon

Film Review: As a companion resource to the textbook *Anthropology: The Human Challenge*, this video was specifically crafted for an introductory college-level audience. It is a broad overview of primate behavior, with an emphasis on social behaviors. The narrator helpfully defines terms (such as “free-ranging”) that also appear on the screen. The video was directed by John and Naomi Bishop and there is commentary from prominent anthropologists, including Naomi Bishop, Susan Perry, and Jim Moore. The footage appears as though it was mostly provided by researchers from various field sites, so while the footage includes some interesting behaviors (e.g. socially-transmitted traditions of capuchins), the production quality is not as good as footage from professional film crews. Even if the accompanying textbook is not assigned in a course, the video can stand alone without difficulty.

Keywords: Behavior, Ecology, Social Behavior, Socially-transmitted Traditions



The Baby Baboon & The Baby Orangutan, 2007

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 9 minutes

Species featured: Papio anubis (Olive Baboon), Pongo pygmaeus (Bornean Orangutan)

Narrator: Ed Marcus

Film Review: As with *The Baby Proboscis Monkey & The Baby Macaque* (2006), another video in this series about animal babies, this short film is intended for a very young audience. Words such as “colony” and “predators” are defined on the screen for viewers. The film contains good footage of free-ranging primates, but is lacking in content pertinent to a college-level audience.

Keywords: Behavior, Ecology, Infants

Educator Discretion Advised: For Elementary/Primary School Audience



Introduction to the Primates, 2006

Author Rating = 2

Instructor Rating, Mean = 3.00 (SD = 1.53; n = 7)

Runtime: 49 minutes

Species featured: Indri indri (Indri), Macaca fascicularis (Long-tailed Macaque), Macaca sylvanus (Barbary Macaque), Ptilocolobus kirkii (Zanzibar Red Colobus), Propithecus verreauxi (Verreaux's Sifaka), Sapajus apella (Black-capped Capuchin)

Also included: Alouatta sp. (Howler Monkey), Lemur catta (Ring-tailed Lemur)

Narrator: Anne Zeller

Film Review: This film is set up like a lecture delivered by Dr. Anne Zeller. The footage is mostly of captive primates in zoos, with some still photographs. There is limited amateur footage of wild primates. This lecture contains a wealth of accurate and relevant information for introducing students to primates, including the basic characteristics shared by most primates, taxonomic distinctions, and basics of behavior and morphology. However, the delivery style is dry and the accompanying footage is low-quality and uneventful. Educators would be better off delivering their own lecture and using short, high-quality video clips from YouTube or ARKive to demonstrate concepts such as scent-marking. BBC's *Life* (episode 10, “Primates”) contains some useful scenes for an introductory lecture about primates.

Keywords: Behavior, Biology, Ecology, Taxonomy



The Life of Mammals: Social Climbers, 2003

Author Rating = 4

Instructor Rating, Mean = 4.51 (SD = 0.73; n = 74)

Runtime: 50 minutes

Species featured: Cebus capucinus (White-headed Capuchin), Macaca sinica (Toque Macaque), Papio anubis (Olive Baboon), Theropithecus gelada (Gelada)

Also included: Alouatta seniculus (Red Howler Monkey), Aotus nigriceps (Black-headed Night Monkey), Cebuella pygmaea (Pygmy Marmoset),

Cercopithecus diana (Diana Monkey), *Saguinus imperator* (Emperor Tamarin), *Saguinus fuscicollis* (Saddleback Tamarin), and others

Narrator: David Attenborough

Film Review: The footage, narration, and species covered in this episode overlap extensively with the documentary *Clever Monkeys* (2008). The highlights of this episode include predation by a baboon on a flamingo, capuchins opening shellfish, and cross-species communication by guenons – all of which are also included in *Clever Monkeys*. As such, showing both in the same class is not advisable, and *Clever Monkeys* is probably preferable to this film.

Keywords: Behavior, Communication, Ecology, Foraging, Predation



Tribal Animals: Apes, 2003

Author Rating = 1

Instructor Rating, Mean = N/A

Runtime: 52 minutes

Species featured: *Chlorocebus sabaeus* (Green Monkey), *Gorilla gorilla* (Lowland Gorilla), *Macaca arctoides* (Stump-tailed Macaque), *Pan paniscus* (Bonobo), *Pan troglodytes* (Chimpanzee), *Semnopithecus entellus* (Northern Plains Gray Langur), *Theropithecus gelada* (Gelada)

Also included: *Gorilla beringei* (Eastern Gorilla), *Pongo abelii* (Sumatran Orangutan)

Narrator: Allan Wenger

Film Review: Overall, this video has little if any educational value for primatologists due to the number of inaccuracies, overabundance of misleading content, and the anthropomorphism of the non-human primates represented. For example, footage of a spider monkey is shown while the narrator claims the monkey is being hunted in Africa. The term “monkey” is used throughout to refer to both monkeys and apes. When discussing how “monkeys” can be “terrifying creatures,” and “cannibals,” footage of gorillas fighting is interspersed with footage of lightning, a male monkey’s canines, and chimpanzees hunting colobus monkeys. Educators should also be aware that this film includes cultural insensitivities associated with the portrayal of the indigenous people who share habitats with the non-human primates.

Keywords: Behavior, Human-Wildlife Interface, Predation

Educator Discretion Advised: Inaccurate Content, Misleading Content



Cousins: The Apes, 2000

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 49 minutes

Species featured: *Gorilla beringei* (Eastern Gorilla), *Hylobates lar* (Lar Gibbon), *Pan paniscus* (Bonobo), *Pan troglodytes* (Chimpanzee), *Pongo pygmaeus* (Bornean Orangutan)

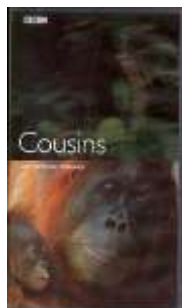
Also included: *Symphalangus syndactylus* (Siamang)

Host: Charlotte Uhlenbroek

This BBC mini-series is comprised of three episodes about primates, presented by primatologist Charlotte Uhlenbroek. Overall, the episodes are well-done and informative, but some more recent films like *Monkey Planet* (2014) provide higher quality footage and more updated information. The final episode of the *Cousins* series focuses on the apes. There is great footage

of gibbon locomotion. A shot of the host ascending up to the canopy via a rope pulley system provides some good perspective on how complicated the canopy is, and thus how impressive the gibbons' locomotion patterns are. On the other hand, some parts of this episode are overly simplified (e.g. chimpanzees are presented as being aggressive; bonobos as sexual).

Keywords: Behavior, Ecology, Locomotion



Cousins: The Monkeys, 2000

Author Rating = 4

Instructor Rating, Mean = N/A

Runtime: 49 minutes

Species featured: *Mico humeralifera* (Santarém Marmoset), *Colobus guereza* (Eastern Black-and-white Colobus), *Erythrocebus patas* (Patas Monkey), *Macaca fuscata* (Japanese Macaque), *Macaca thibetana* (Tibetan Macaque), *Procolobus kirkii* (Zanzibar Red Colobus), *Rhinopithecus roxellana* (Golden Snub-nosed Monkey), *Saimiri boliviensis* (Black-headed Squirrel Monkey), *Theropithecus*

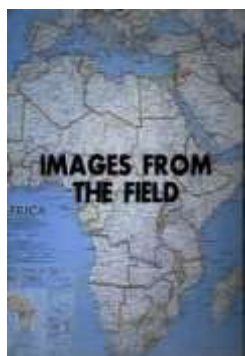
gelada (Gelada)

Also included: *Alouatta pigra* (Black Howler Monkey), *Cercopithecus mona* (Mona Monkey), *Macaca nigra* (Celebes Crested Macaque), *Nasalis larvatus* (Proboscis Monkey), *Pan troglodytes* (Chimpanzee), *Papio anubis* (Olive Baboon), *Pygathrix nemaeus* (Red-shanked Douc Langur), *Trachypithecus cristatus* (Silvery Lutung)

Host: Charlotte Uhlenbroek

Film Review: This BBC mini-series is comprised of three episodes about primates, presented by primatologist Charlotte Uhlenbroek. Overall, the episodes are well-done and informative, but some more recent films like *Monkey Planet* (2014) provide higher quality footage and more updated information. This episode of *Cousins* focuses on monkeys. Some highlights include quality footage of patas monkeys, Japanese macaques soaking in hot springs, and Tibetan macaques having intense interactions with tourists. There is some overlap between the footage and content used in this video and in *Monkey Planet* (2014).

Keywords: Behavior, Ecology, Ecotourism, Human-Wildlife Interface



Images from the Field: Five Species, 1997

Author Rating = 2

Instructor Rating, Mean = 3.60 (SD = 0.97; n = 10)

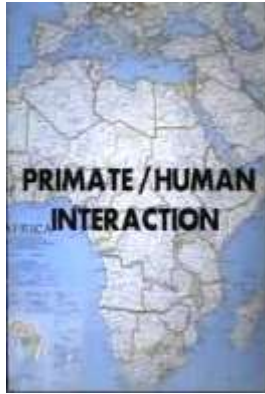
Runtime: 53 minutes

Species featured: *Cercopithecus mitis* (Blue Monkey), *Chlorocebus aethiops* (Griset Monkey), *Colobus guereza* (Eastern Black-and-white Colobus), *Gorilla beringei graueri* (Grauer's Gorilla), *Pan troglodytes* (Chimpanzee)
Also included: *Papio anubis* (Olive Baboon), *Piliocolobus rufomitatus* (Tana River Red Colobus)

Narrator: Anne Zeller

Film Review: This installment in Anne Zeller's series focuses mainly on five African primate species: the vervet, the blue monkey, the black and white colobus, the common chimpanzee, and the Eastern lowland gorilla. As with the other films in this series, the narration, which mostly focuses on ecology and behavior, is informative, but the primate footage is amateur, shaky, and often shot from a distance or in low light. In addition, some of the taxonomy is outdated which makes this film of minimal educational value.

Keywords: Behavior, Ecology



Primate-Human Interaction, 1997

Author Rating = 2

Instructor Rating, Mean = 4 (*SD* = N/A; *n* = 1)

Runtime: 10 minutes

Species featured: *Cercopithecus mitis* (Blue Monkey), *Papio anubis* (Olive Baboon)

Also included: *Gorilla gorilla* (Lowland Gorilla)

Narrator: Anne Zeller

Film Review: Although this short film from the Documentary Educational Resources series contains some interesting footage of interactions between humans and non-human primates, most of the footage is very grainy and

low-quality. A portion of the footage from this film overlaps with footage from *Images from the Field: Baboons* (1997). Other videos such as *Cheeky Monkey* (2015) are more useful for providing examples of primate-human interactions.

Keywords: Human-Wildlife Interface



Primate Patterns II, 1997

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 31 minutes

Species featured: various captive species

Narrator: Anne Zeller

As with Anne Zeller's other films in the Documentary Educational Resources series, this one is a bit dry. Unlike some of the other

films that feature wild primates, this one focuses exclusively on captive primates to compare social relations and activity patterns across taxonomic groups including lemurs, macaques, mandrills, gorillas, and orangutans. More modern films with excellent footage of wild primates (e.g. The "Primates" episode of BBC's *Life*) would be more entertaining and instructive for students.

Keywords: Behavior, Social Structure



What Do Primatologists Do?, 1997

Author Rating = 2

Instructor Rating, Mean = 4.5 (*SD* = 0.71; *n* = 2)

Runtime: 52 minutes

Species featured: *Macaca fascicularis* (Long-tailed Macaque),

Pongo pygmaeus (Bornean Orangutan)

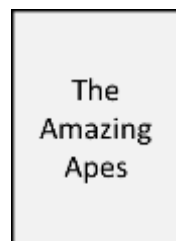
Narrator: Anne Zeller

Film Review: This video is delivered in the style of a lecture with still photos as slides. Two brief videos are also included. The

photos and videos are low quality and very dark. The video focuses on one field site in Tanjung Puting National Park in Borneo. As such, it provides a very narrow view of primatology, with an overrepresentation of rehabilitation and interacting with animals physically (e.g. bathing orangutans). *Primates Like Us* (2003) follows undergraduates on their first trip to collect data in

the field, and may be more useful for depicting the types of field conditions that undergraduates are likely to encounter.

Keywords: Field Conditions, Rehabilitation



The Amazing Apes, 1983

Author Rating = 2

Instructor Rating, Mean = N/A

Runtime: 93 minutes

Species featured: Gorilla beringei (Eastern Gorilla), Macaca fuscata (Japanese Macaque), Pan troglodytes (Chimpanzee), various captive species

Also included: Macaca fascicularis (Long-tailed Macaque), Macaca sylvanus

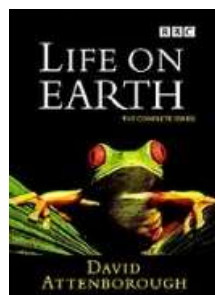
(Barbary Macaque), Papio anubis (Olive Baboon), Pongo pygmaeus (Bornean Orangutan)

Narrator: Marvin Miller

The title of this film is a misnomer, as it features both monkeys and apes. The film is an odd combination of footage, ranging from wild footage of gorillas and macaques to old Hollywood movie scenes of a man in a gorilla suit and historical footage of NASA's space macaques. It is difficult to ascertain the film's goal. There are a number of factual errors. Some (like the usage of the word "retarded") are artifacts of the film's age. Others are mischaracterizations of reality, such as the idyllic representation of captive primate life – at one point the narrator refers to circus and zoo chimpanzees as leading a "pampered life." Footage of experimentation on macaques in the space program is difficult to watch, although the narrator assures audience that the implantation of electrodes into a macaque's brain was "painless." The majority of this film does not have educational value, but approximately the last third contains interesting and instructive footage of language apes (including Washoe and Koko) and may be instructive for that reason.

Keywords: Behavior

Educator Discretion Advised: Misleading Content



Life on Earth, episode 12: Life in the Trees, 1979

Author Rating = 4

Instructor Rating, Mean = 4.27 (SD = 0.92; n = 73)

Runtime: 54 minutes

Species featured: Gorilla beringei (Eastern Gorilla), Lemur catta (Ring-tailed Lemur), Macaca fuscata (Japanese Macaques), Pan troglodytes (Chimpanzee)

Also included: Alouatta sp. (Howler Monkey), Callithrix jacchus (Common Marmoset), Chlorocebus aethiops (Grivet Monkey), Daubentonia

madagascariensis (Aye-aye), Eulemur fulvus (Brown Lemur), Hylobates lar (Lar Gibbon), Indri indri (Indri), Macaca sylvanus (Barbary Macaque), Microcebus sp. (Mouse Lemur), Nycticebus sp. (Slow Loris), Papio anubis (Olive Baboon), Pongo pygmaeus (Bornean Orangutan), Propithecus verreauxi (Verreaux's Sifaka), Saimiri sciureus (Common Squirrel Monkey), Trachypithecus cristatus (Silvery Lutung)

Narrator: David Attenborough

Film Review: Overall, this is an educational tour of the Primate Order, with a specific focus on how primates evolved for life in the trees. The episode features a young David Attenborough, and as usual his narration is entertaining and informative. However, some aspects of this show are outdated and show interaction with wildlife which would be considered inappropriate

because of the possible risk of disease transmission. For example, in one scene Attenborough is shown in physical contact with wild gorillas; in another, he feeds macaques out of his hand. Nevertheless, the episode is still a worthwhile educational resource, especially if accompanied by some commentary from the instructor. A more updated alternative is the excellent BBC *Life* (2009) episode that focuses on primates.

Keywords: Behavior, Ecology, Evolution

Educator Discretion Advised: Inappropriate Interaction with Wildlife



Search for the Great Apes, 1975

Author Rating = 5

Instructor Rating, Mean = 4 (SD = N/A; n = 1)

Runtime: 60 minutes

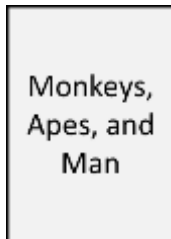
Species featured: *Gorilla beringei* (Eastern Gorilla), *Pongo pygmaeus* (Bornean Orangutan)

Narrator: Richard Kiley

Film Review: This documentary focuses on the research of Biruté Galdikas and Dian Fossey. The film contains excellent historical footage of the researchers and their study subjects. There is excellent footage of natural gorilla behaviors. Much of the orangutan footage focuses on orangutans

that Galdikas keeps at her research camp in the hope of rehabilitating and re-releasing them. Seeing the earlier days of great ape research provides excellent perspective on how far our understanding of these apes have come, thanks in great part to the tireless efforts of early researchers like Galdikas and Fossey. This documentary would be most useful if contextualized with some commentary on what is currently known about these species.

Keywords: Behavior, Ecology, Historical Footage, Rehabilitation, Researcher Profiles



Monkeys, Apes, and Man, 1971

Author Rating = 3

Instructor Rating, Mean = 3 (SD = 0.00; n = 3)

Runtime: 43 minutes

Species featured: *Pan troglodytes* (Chimpanzee)

Also included: *Macaca fuscata* (Japanese Macaque), *Papio anubis* (Olive Baboon), various captive species

Narrator: Leslie Nielsen

Film Review: This film includes excellent historical footage of the Harlow maternal deprivation experiments and of Jane Goodall's early days at the Gombe Stream Research Station. Students may be particularly interested to see data collection occurring in the days before computers and handheld technology. However, the entire documentary is not very informative and the best way to use this film in courses may be to select the most informative clips. *Monkeys, Apes, and Man: Explaining the Chasm* (1971) is an abbreviated version of this film.

Keywords: Historical Footage, Researcher Profiles

Survey of
the
Primates

Survey of the Primates, 1970

Author Rating = 2

Instructor Rating, Mean = 3 (SD = 0.82; n = 10)

Runtime: 38 minutes

Species featured: various captive species

Narrator: Robert Lee

Film Review: When this film was originally released, it was probably an excellent resource. However, it is outdated and its use as an educational resource has diminished with advances in the field. The footage is all of captive primates in zoological parks before the movement to replicate naturalistic conditions. The film does provide a decent overview of primates and the characteristics that vary across families, but some of that information is also dated (e.g. Allen's swamp monkeys are referred to as "Allen's baboon-like monkeys"). More updated resources such as the "Primates" episode of BBC's *Life* (2009) would be more useful for teaching purposes.

Keywords: Evolution, Taxonomy



Animal Secrets: Primates, 1966

Author Rating = 3

Instructor Rating, Mean = N/A

Runtime: 25 minutes

Species featured: Papio cynocephalus (Yellow Baboon)

Also included: Chlorocebus pygerythrus (Vervet Monkey), Eulemur macaco (Black Lemur), Propithecus candidus (Silky Sifaka), Propithecus verreauxi (Verreaux's Sifaka)

Narrator: Loren Eiseley

Film Review: This episode includes extensive baboon footage from Irvan DeVore and was partially filmed in the American Museum of Natural History. At the time, the museum contained many taxidermy primate specimens, providing some insight into how primates used to be displayed in museums. The narration about human evolution is rather progressive for the 1960s, but more up-to-date documentaries (e.g. the "Primates" episode of the BBC *Life* series) are available and would be more useful for introducing students to the Primate Order.

Keywords: Evolution, Taxonomy

Unreviewed Films

After extensive searching, we were unable to acquire the following films for review.

A Chimpanzee Family, 1973

A Monkey for All Seasons, 1995

Adventure: Gorillas, 1953

Adventure: To the Island of the Aye-Aye, 1991

Baboons (Disney filmlet), 1955

Baboons and Their Young (Disney filmlet), 1955

Baboons Rule OK, 1982

Baboons: Too Close for Comfort, 1996

Bleeding Hearts and Bone Crushers, 1967

Born to Explore: Gorillas and Pygmies, 2011
Born to Explore: Orangutans – People of the Forest, 2014
Born to Explore: The Last Mountain Gorilla, 2015
Catch me a Colobus, 1968
Champions of the Wild: Bonobos, 2000
Champions of the Wild: Golden Lion Tamarins, 2001
Champions of the Wild: Japanese Macaques, 2000
Champions of the Wild: White-handed Gibbons, 2000
Characteristics of Gibbon Behavior, 1942
Cheirogaleus major (Lemuridae): Play of Young Animals, year unknown
Chimpanzees of the Gombe National Park, 1971
Chimps: Kalunde the Kingmaker, 2008
Crowned Lemurs: Blade Runners, 1998
Cry of the Muriqui, 1982
Dark Days in Monkey City, episodes 5 through 13, 2009
Deadly 60: On a Mission: Uganda, 2010
Dynamics of Male Dominance in a Baboon Troop (Irven DeVore), 1965
Evening Activity (Irven DeVore), 1966
Everyone for Conservation: Gorillas, 2007
Galago crassicaudatus, Transport of the Young by its Mother, 1962
Gangland Lemurs, 2002
Jungle Babies: Tarsier Tails, 2014
Madagascar: Island of Ghosts, 1991
Marmosets and Tamarins (Disney filmlet), 1959
Mask of the Mandrill, 1996
Monkey of the Clouds, 1984
Monkeys of Minoo, 1988
Monkeys of the Amazon (Disney filmlet), 1959
Mountain Gorilla: A Shattered Kingdom, 1996
Nature: Baboon Woman, 2009
Nature: Gorilla: King of the Congo, 1993
Nature: Tiwai: Island of Apes, 1992
Observing Baboons from a Vehicle (Irven DeVore), 1966
Older Infant: Four Months to One Year (Irven DeVore), 1966
Orang Utans: Out on a Limb, 1994
Rango, 1931
Rhesus Monkeys, 1991
Social Behavior of Rhesus Monkeys, 1947
Spider Monkeys (Disney filmlet), 1959
Street Monkeys, 2009
The Baboon Troop (Irven DeVore), 1966
The Gorilla Hunt, 1926
The Great Apes, 1970
The Great Red Apes, 1970
The Life of Monkeys: Natural Communities of Japanese Monkeys, 1954
The Natural World: Lemur Blues, 2013

The Natural World: The Temple Troop, 1997
The Natural World: Three Monkeys, 1998
The World About Us: Ghosts at the End of the Earth, 1971
The World About Us: The Baboons of Gombe, 1975
The World About Us: There are Monkeys at the Bottom of the Garden, 1971
Younger Infant: Birth to Four Months (Irvén DeVore), 1966
Zen, the Pigtail Monkey, 1980
Zoo Quest to Madagascar, 1961